WEST VIRGINIA

SECRETARY OF STATE

KEN HECHLER

ADMINISTRATIVE LAW DIVISION

Form #2

FILED

1992 MAY 18 AM 9:19

OFFICE OF WEST VIRGINIA SECRETARY OF STATE

NOTICE OF A COMMENT PERIOD ON A PROPOSED RULE

AGENCY: West Virginia Board of Education TITLE NUMBER: 126

RULE TYPE: Legislative ; CITE AUTHORITY WV Code 18-9C, 18-9D, 18-5-10, 18-513, and 18-5-13a

AMENDMENT TO AN EXISTING RULE: YES X NO

IF YES, SERIES NUMBER OF RULE BEING AMENDED: 172 (Policy 6200)

TITLE OF RULE BEING AMENDED: Handbook on Planning School Facilities

IF NO, SERIES NUMBER OF NEW RULE BEING PROPOSED:

TITLE OF RULE BEING PROPOSED:

IN LIEU OF A PUBLIC HEARING, A COMMENT PERIOD HAS BEEN ESTABLISHED DURING WHICH ANY INTERESTED PERSON MAY SEND COMMENTS CONCERNING THESE PROPOSED RULES. THIS COMMENT PERIOD WILL END ON June 18, 1992 AT 9:00 a.m.

ONLY WRITTEN COMMENTS WILL BE ACCEPTED AND ARE TO BE MAILED TO THE FOLLOWING ADDRESS.

Mr. Cecil C. Dolin, State Director
School Transportation and Facilities
West Virginia Department of Education
Bldg. 6, Room 264
1900 Kanawha Blvd. E.,
Charleston, WV 25305

THE ISSUES TO BE HEARD SHALL BE LIMITED TO THIS PROPOSED RULE.

Barbara L. Estep
May 15, 1992

ATTACH A **BRIEF** SUMMARY OF YOUR PROPOSAL

26-70

FORM HD 251
(10-66)

FISCAL NOTE WORKSHEET

(Submit 4 copies)

HD NO _____ DRAFT NO _____ BILL NO _____ RESOLUTION NO. _____

SUBJECT Policy 6200 - Handbook on Planning School Facilities

SOURCE OF REVENUE: ☐ GENERAL FUND ☐ SPECIAL ☐ OTHER (SPECIFY) _____

COST ESTIMATE BASED ON: ☐ AN ORIGINAL ESTIMATE ☐ BUDGET BILL ☐ OTHER (SPECIFY) _____

INCOME ESTIMATE BASED ON: ☐ AN ORIGINAL ESTIMATE ☐ BUDGET BILL ☐ OTHER (SPECIFY) _____

SHOW OVER-ALL EFFECT IN ITEMS 1 AND 2 AND IN ITEM 3 GIVE EXPLANATION OF BREAKDOWN BY FISCAL YEAR INCLUDING LONG-RANGE EFFECT

EFFECT OF PROPOSAL	ANNUAL		FISCAL YEAR		
	INCREASE	DECREASE	CURRENT	NEXT	THEREAFTER
1. ESTIMATED TOTAL COST	$ -0-	$ -0-	$ -0-	$ -0-	$ -0-
PERSONAL SERVICES	$	$	$	$	$
CURRENT EXPENSES					
REPAIRS AND ALTERATIONS					
EQUIPMENT					
OTHER					
2. ESTIMATED TOTAL REVENUES	$ -0-	$ -0-	$ -0-	$ -0-	$ -0-

3. EXPLANATION OF ABOVE ESTIMATES (INCLUDING LONG-RANGE EFFECT):

DATE _____ AGENCY _____ AUTHORIZED REPRESENTATIVE _____

Title 126
Legislative Rule
West Virginia Board of Education
Chapters 18-9C, 18-9D, 18-5-10, 18-5-13, 18-5-13a.
SERIES 172
Policy 6200

TITLE: HANDBOOK ON PLANNING SCHOOL FACILITIES

Section 1. General

1.1 Scope - This legislative rule provides that each county will revise and annually amend its Comprehensive Educational Facilities Plan.

1.2 Authority & Related Code Citation(s) - W.V. Code 18-9C, 18-9D, 18-5-10, 18-5-13, and 18-5-13a.

1.3 Filing Date - May 23, 1991

1.4 Effective Date - July 5, 1991

1.5 Repeal of Former Rules - None - Revision of rule formerly filed in 1973.

Section 2. Incorporation by Reference

2.1 Copy of rules and regulations are attached. Copies may be obtained in the office of the Secretary of State and in the West Virginia Department of Education, Bureau of Administrative Services.

2.2 Summary of rules and regulations below:

SUMMARY OF RULES AND REGULATIONS

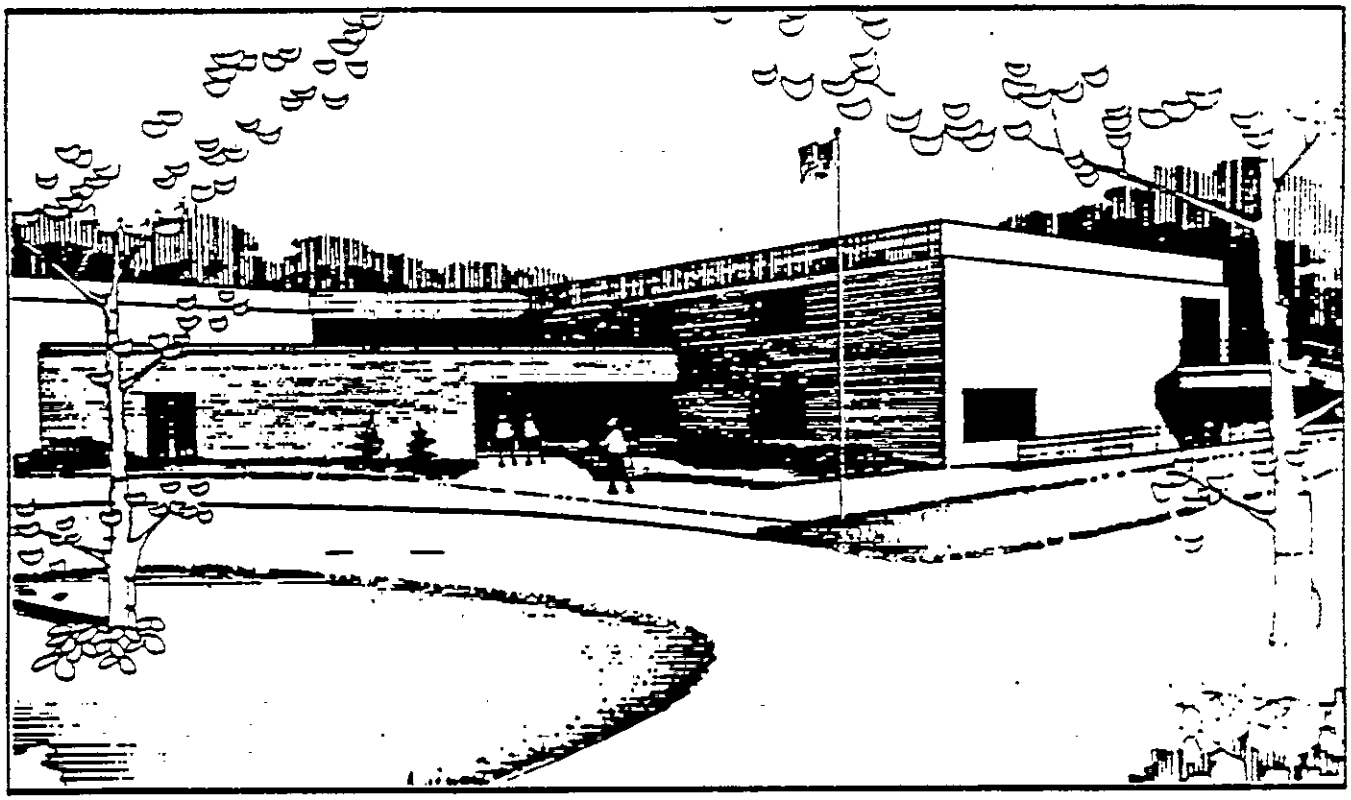
The state Department of Education has a responsibility to provide guidance and assistance to counties in their efforts to continuously improve all aspects of educational programming, including physical facilities. The Department of Education endeavors to fulfill its leadership responsibilities and assist in establishing a thorough and efficient system of education for all the children of West Virginia. This handbook for school facilities planning has been prepared to assist public school officials in planning and constructing new facilities, additions and major renovations which will enable West Virginia's 55 county school systems to provide equal educational opportunities for all children.

School facilities are an integral and expensive component of the system of education in West Virginia. As educational programs become comprehensive, the importance of adequate facilities is increased. This increasing importance, combined with aging or obsolete facilities, creates an unending demand. This demand must continuously be provided for in the most concurrent method with implementation of an adequately funded program of school facility construction, will ultimately provide the facilities necessary to accommodate a thorough and efficient system of education.

This handbook provides that each county will revise, and annually amend, its Comprehensive Educational Facilities Plan. In developing this plan, all existing school facilities will be evaluated in relationship to the standards contained herein. An instrument will be provided to county personnel which will facilitate this process. The Comprehensive Educational Facilities Plan will identify all facility needs and will also establish facility construction priorities.

D R A F T

HANDBOOK ON PLANNING SCHOOL FACILITIES



West Virginia Board of Education

Printed by the West Virginia Department of Education

TABLE OF CONTENTS

Chapter 9 (continued) Section

Chapter 10

Planning School Facilities
Regulations for Policy 6200

Chapter 1

100 COMPREHENSIVE EDUCATIONAL FACILITIES PLAN (CEFP)

References:

1. A Master Plan for Public Education
2. Guide for Planning Educational Facilities
3. West Virginia Board of Education - Policy ~~2510~~ 2525
4. School Laws of West Virginia (§18-9D-1 thru 16)

Each county shall develop a comprehensive educational facilities plan as described in the following sections. The plan shall be submitted to the Regional Education Service Agency (RESA) for review and inclusion in the Regional CEFP and to the state Board of Education for approval prior to the construction of any new facilities or the renovation or remodeling of existing facilities. This plan shall be submitted for approval, amended annually, and rewritten every ten years thereafter. Approval of the county CEFP must be granted by the state Board of Education and approval of the regional CEFP must be granted by the School Building Authority of West Virginia (SBA) prior to funding any project through the SBA. The CEFP must include all projects that alter the instructional square footage of the facility or exceed $25,000 regardless of the funding source. Routine maintenance projects may not be included in the CEFP unless SBA funding will be requested or utilized to implement them. Required amendments to the plan and/or the plan budget must be submitted to the state Board of Education and the SBA for approval prior to the initiation of any construction or renovation project.

All proposed school closures and/or consolidations must be included in the approved CEFP prior to initiating statute 18-5-13 and 18-5-13a and policy procedures herein.

100.01

Key elements for analysis and consideration in the county plan must include the following components.

A. The Community Analysis
B. Population and Enrollment Study
C. The Educational Plan
D. Evaluation of Existing Facilities for Compliance with State Requirements
E. Financing Plan--includes a prioritized list of all projects within the county. The regional plan will include a prioritized list of all projects among the counties identifying the utilization priority of state SBA funds.
F. Translating Educational Needs Into Facility Needs (including form SBA/WVDE 116)

In addition to the individual county plans, the RESA shall be responsible for including the following components for analysis and consideration in the Regional CEFP.

G. Table of contents of the regional plan
H. Inter-county facility feasibility study
I. Synopsis of comments from the public hearing(s)
J. Formal comments from each county board of education in the RESA
K. Objective Evaluation of Implementation

100.011 The Community Analysis

References:
2. C - 3 & 4

100.0111

A survey of a community's history provides a background against which present conditions acquire meaning. The following aspects of a community's development should be studied carefully:

A. Population characteristics and density patterns
B. Population changes due to in- and out-migration patterns and to fluctuations in the birth rate
C. Changes in land usage (residential, commercial and industrial)
D. Major highway and street networks and their probable future development
E. Changes in socio-economic patterns resulting in population shifts within the community
F. Condition and value of housing in residential areas and of commercial buildings in industrial areas
G. Availability of community services - libraries, recreational areas, health services, public assembly space
H. Employment opportunities
I. Parental expectations of the school
J. Citizen attitudes and aspirations in general
K. Possible shifts in housing patterns
L. Changes in school attendance zones

100.012 Population and Enrollment Study

References:
2. C - 4 & 5

100.0121
In general, the following statistics are essential components of the Plan:

A. Population trends of the total school community
B. Birth rates and the number of births
C. Public school enrollment figures
D. Non-public school enrollment figures
E. Drop outs
F. Enrollment projections

100.013 The Educational Plan

References:
2. C - 9 & 10

100.0131
The Educational Plan provides a standard against which existing facilities can be measured ie., how well do the facilities support the goals defined in the plan. This includes an analysis of the current educational program and projections of the planned educational program. The educational plan shall include the following areas:

A. The curriculum plan - What knowledge, understanding, attitudes, skills, and habits of life should be developed through the experiences provided for children?
   1. What are the general characteristics of a high quality school program? (Refer to state guides and basic county philosophy and goals)
   2. Are there any groups of youngsters whose needs are not now adequately accommodated? (ie., handicapped, gifted, etc.)
B. The operations plan - Design and conduct of the teaching and learning environment
   1. Will the environment encourage openness in education or structure or both?
   2. Will the educational environment go beyond the classroom? (ie., into the community)
   3. What, if any, major changes in the teaching-learning environment are anticipated to more fully achieve the county's educational goals?
C. The instruction plan - Program description and methods of instruction
   1. What will be the major components of the instructional program? (ie., general course of study; vocational, adult or community education;

special education; driver education; physical education; co-curricular activities; computerization and technology; or advanced courses in science, math, language arts, and social studies, etc.)

2. Will the instructional program be organized into semester subject matter units, mini-courses, core programs, experimental learning units, or some other basis?

D. The organization plan - The pattern or system adopted to promote instructional missions
   1. Will the school system be predominately organized on a K-4, 5-8, 9-12, or some other pattern?
   2. Will the typical one-teacher-per-class pattern be followed, or are teaching teams to be involved all or part of the time?
   3. Generally, will there be self-contained or departmentalized classroom instruction?
   4. Generally, will there be typical grade patterns or will there be an ungraded or flexible grouping of pupils?
   5. What should be the maximum or minimum enrollment and total number of instructional areas in each building?
   6. What is the plan for providing vocational education?

E. The personnel plan
   1. What allocation of staff will be made (to each building) to implement the educational plan?
   2. Describe how professional staff efficiency will be addressed in this plan.

F. The support plan
   1. What kinds of support services are essential to carry out the instructional plan? (ie., cafeteria, health, instructional media centers, transportation, guidance, television)
   2. Describe how support staff efficiency will be addressed in this plan.
   3. How will these services be more operationally efficient?

100.014 Evaluation of Existing Facilities for Compliance with State Requirements

References:
2. C - 11

100.0141

The evaluation of existing facilities shall include a survey of each plant in the county using the SBA approved School Facility Evaluation Instrument. This evaluation will provide objective data on the condition of the existing building, its appropriateness for delivery of the instructional program, and its ability to

support the present and projected enrollments in an effective and efficient manner. This data can help determine if the facility can be economically modified to house the projected educational program and at what cost. The services of a qualified facilities planner are necessary.

100.0142 Criteria for Evaluating Existing Buildings

A. Health and safety considerations. These will be identified as required by the regulatory agencies and will be used as a criteria for determining prioritization of projects for SBA funding. Regulatory agencies include the state fire marshal, Dept. of Health, Vocational Rehabilitation, School Facilities Planning Division of the state Board of Education and the School Building Authority of West Virginia, etc.

B. Facilities improvements and new facilities must accommodate the educational programs by design. The building design will be dictated by the curriculum. Existing and new facilities must meet requirements of the state Handbook.

C. Facilities must comply with state policies, federal and state laws, and guidelines of the SBA.

D. Economies of scale include compatibility with similar schools that have achieved the most economical organization, facility utilization and pupil-teacher ratios.

E. County boards of education will be required to justify the closure of facilities or the continued use of facilities that do not comply with the criteria for evaluating school facilities.

F. Economies of Scale based on enrollment are as follows:

1. Elementary schools with a minimum enrollment of 300 students in grades 1-6, 200 in grades 1-4, or a minimum of 2 classes (22 each) per grade level, are recommended to achieve economies of scale. Early childhood, kindergarten and exceptional students may increase this minimum standard.
2. Middle and junior high schools with a minimum enrollment of 450 students grades 7-9 or 6-8, 5-8 schools with 600 students, or schools with 150 students per grade level minimum are recommended to achieve economies of scale at the intermediate level.
3. High schools with a minimum enrollment of 600 students grades 10-12, 800 students grades 9-12 or 200 students at each grade level are recommended to achieve economies of scale.
4. Geographic or other considerations may require exceptions to be considered; regional planning should also be considered to achieve these minimum enrollment standards.

5. A maximum of 85% of the building design capacity should be considered for early childhood, intermediate, and adolescent facilities.

G. Energy efficiency
H. Program support appraisal
I. Building utilization
J. Site analysis
K. Standards for accreditation

100.015 Financing Plan

Identify the source of funding to be utilized in the financing plan.

A. Sources of funds
   1. Local bonding potential - unencumbered
   2. Excess levy funds
   3. Federal aid funds
   4. Sale of abandoned school sites and buildings
   5. State funds (including SBA)
   6. Permanent improvement funds
B. Cost of needed improvements as determined by an architect, professional engineer, or other professional project estimator
C. If a project benefits more than one county in the region, include in the plan the manner in which the cost and funding of the project shall be apportioned among the counties.

100.016 Translating Educational Needs into Facility Needs

The CEFP shall be based upon the community analysis, the population and enrollment study, the education plan, the evaluation of existing facilities for compliance with state requirements, the regional feasibility study and the financing plan.

The CEFP is an illustrated document which describes existing and future buildings, area and population of students to be served, site topography, building orientation, climate, vehicular and pedestrian circulation, location of utilities, site development, financial capability and neighboring land use - both current and projected.

Master planning is a way of identifying the best route to the future through a workable plan for handling priority rated, predictable situations and anticipated changes. A master plan defines ultimate goals for the institution and accounts for the facilities required to help achieve these goals. The capacities and capabilities thus defined are realized, if necessary, through several phases of construction and expansion or reduction and modification. These activities are viewed in terms of their relationship to the total program. A summary of the county's master plan should be represented by a projected ten-year time line as illustrated in Appendix A (Attachment #1) of this handbook, and should include Facility Classification Form SBA/WVDE 116 illustrated in Appendix A (Attachment #2). This

form is to serve as a cover page for a narrative report on each facility. The narrative is to describe in detail the future action to be taken in the school and the proposed date for the change. For example:

A. A school scheduled to close should indicate receiving school(s) and number of students to be transferred to each; a school scheduled for improvements should indicate what capital improvements are to be made and estimated cost.

B. A school scheduled as a receiving school should indicate the improvements needed to accept additional students, the number of students projected to enter the school and the school(s) from which students are to be transferred.

C. A school scheduled for grade reconfiguration should indicate all schools involved (closed or others reconfigured), the number of students affected and the projected number of students in the school after the reconfiguration is completed.

Pertinent information regarding any change in school usage or facility improvement should be included. School(s) scheduled to remain the same throughout the plan period should be addressed with a brief narrative to describe its present activity and condition.

New facilities shall not be constructed for student populations that are projected to fall below 85% of the required economies of scale guidelines for minimum school enrollments within 10 years of the completion date of the construction. (See 100.0142 F.) Consideration may be given to extraneous factors that may alter their requirement provided the project is approved by the state Board of Education at the time of construction.

100.017 Inter-County Facility Feasibility Study

A. Each county shall submit to the RESA a list of grouped, inter-county attendance areas where potential exists for cooperative utilization of a facility between or among counties within the RESA or between counties of adjacent RESA's. (May include multi-county and inter-regional facilities, ie., magnet schools, area vocational centers etc.)

B. A planning study is to be completed to assure that an efficient and effective instructional delivery system will be utilized addressing each of the items indicated in section 100.01 (A-K)~~-in-this-Handbook~~.

C. Describe the results of the study.

100.018 Synopsis of Comments From the Public Hearing(s)

Prior to submitting the Regional CEFP to the School Building Authority of West Virginia for approval, one or more public hearings must be held regionally to provide broad-based community input into the plan. As an addendum to the CEFP, sufficient documentation, including verification of public notices from the

local newspapers and a synopsis of all comments received during the hearings must be included. A formal comment from each county board of education in the RESA shall be submitted to the School Building Authority of West Virginia for consideration in their approval process.

100.019 Objective Evaluation of Implementation

As part of the total Regional CEFP unit, the RESA shall include the objective means to be utilized in evaluating implementation of the overall plan and each project included therein. The evaluation shall measure how:

A. Each project furthers each of the quality educational goals of the School Building Authority of West Virginia as defined in §18-9D-16 of the WV Code. This shall include: Student health and safety, economies of scale, travel time and other demographics, achievement of effective and efficient instructional delivery system, curricular improvements, innovations in education, and adequate space for projected student enrollments;

B. Prioritization of projects both within county and among counties serves as a basis for determining expenditure of available funds: and,

C. The overall success of any project relates to the facilities plan of the region and the overall goals of the state Board of Education and the SBA.

101 EDUCATIONAL SPECIFICATIONS

References:

2. E - 2 & 3

101.01

The development of educational specifications for each new school facility is a team, rather than an individual, activity which is accomplished by school administrative unit personnel with or without the assistance of an outside consultant. The chief school administrator, or the RESA director in cooperative projects, recommends persons for committee appointment. The (school) appropriate board then acts on these recommendations. The committee chairperson is usually the principal of the proposed facility. If that official has not been identified, then the principal of another administrative unit facility can serve. The working committee should be small and selective. It should be balanced in composition, with diversified interests, knowledge, and skills represented. Members should understand their role in relation to both the immediate task and the entire project. They should also understand the necessity for cooperation. Ordinarily members of the teaching staff and others who will be immediately involved in the use of the proposed facility are most able to provide the type of information required in educational specifications. Some important considerations in the selection of committee members are:

A. Time available to spend on the project

B. Knowledge about the project

C. Imagination and creativity
D. Ability to work with people
E. Interest in the improvement of the school

101.02
Educational specifications should describe the learning activities that will be housed in the proposed facility; the number, grouping and nature of the people involved; the spatial relationship between the facility and site; the interrelationships of instructional programs with each other and with non-instructional activities; the major items of furniture and equipment to be used; and any special environmental provisions which would improve the learning environment and promote staff efficiency. Educational specifications should avoid rigid architectural prescriptions, confining its remarks to educational matters.

101.03
Educational specifications describe the educational activities which a proposed facility must support and the types of spaces which will best accommodate program requirements. They are not a precise delineation of the instructional program; nor are they technical specifications of the type that the architect or engineer directs to the contractor. They are, however, in a temporal and developmental sense, a connecting link between the program and technical statements.

The educational specifications document is a vehicle of communication between the educator and the architect: the educator identifies the educational objectives and suggests general facility needs; the architect bases his facility design on this information. Five copies of educational specifications for any new facility shall be submitted to the state Board of Education for review at the time they are submitted to the architect for design consideration.

102 SELECTION OF FURNITURE AND EQUIPMENT

References:
2. J

102.01
Classroom furniture and equipment should be considered during the initial planning stage and should be selected on the basis of its contribution to, and compatibility with, the total educational program.

102.02
Criteria for selection should include the following:
A. Appearance
B. Maintenance
C. Safety
D. Comfort
E. Durability
F. Building codes
G. Guarantees

H. Flexibility
I. Availability
J. Cost

103 OCCUPANCY OF NEW EDUCATIONAL FACILITIES

References:
2. O

103.01
Teachers and other employees shall be informed of the operation of the building, particularly fire escape routes, heating, ventilating and air conditioning systems and communication systems.

103.02
No educational facility shall be occupied without prior approval from the state Department of Education and state and county Regulatory Agencies, and School Building Authority when appropriate.

104 FACILITIES PROGRAM CONTROL

104.01
On single county projects, the county board of education maintains complete control of the entire construction program. On new cooperative inter-county projects, the RESA board of directors is responsible for appointing a joint building council of individuals from the cooperating counties to control the construction project. This council shall include, but not be limited to: the respective county superintendents, one member from each Board of Education, the principal of the new facility, if known, one classroom teacher from each county, and the RESA director or designee. The council shall control each project by:

A. Authorizing a study of the educational program and subsequently adopting educational policies for implementation;
B. Authorizing the survey and adopting a building program on the basis of the results thereof;
C. Establishing site criteria, inaugurating steps to select and purchase sites and authorizing the purchase of sites;
D. Authorizing the preparation of and approving educational specifications for each building;
E. Selecting the architect, educational consultant, legal advisor and other specialists;
F. Authorizing the preparation of architectural drawings and specifications, approval of preliminary plans, working drawings and specifications and any subsequent change;
G. Deciding when to proceed with construction, soliciting bids, awarding contracts and inspecting and accepting the completed building;
H. Authorizing the expenditure of necessary funds at each stage of the program;
I. Designating one county as the fiscal agent to handle the business functions of the building council on inter-county projects.

~~104.02~~

~~The School Building Authority of West Virginia reserves the right to inspect construction projects funded by SBA to assure the quality of the work and materials and may require changes by county boards of education to correct problems or situations that may negatively affect the project or its completion.~~

105 RULES AND REGULATIONS FOR COUNTY BOARDS OF EDUCATION TO FOLLOW REGARDING SCHOOL CLOSINGS OR CONSOLIDATIONS

Section 13a of Article 5, Chapter 18, of the Code of West Virginia provides that:

. . . the state board shall promulgate rules and regulations which shall prescribe in detail the type of supporting data a county board of education shall include as part of its written statement of reasons required by this section for school closing or consolidation, and which shall include any data required by the state board of education to amend a county's comprehensive educational facilities plan.

Pursuant to this statute, all county boards of education, except in cases in which a construction bond issue was passed by the voters and which bond issue included the schools to be closed or consolidated, must prepare and reduce to writing reasons and supporting data concerning proposed school closings or consolidations to be submitted to the state board of education for approval in accordance with state Board of Education Policy #6200 and the West Virginia Code.

105.01 Enrollment

A. Population changes - ~~in-migration, out-migration and overall~~ trends in population growth or decline in the county, the attendance area of the school targeted for closure or consolidation and the school or schools which will receive the students affected
B. Population characteristics, such as birth rates and age composition (including the number of pre-school and school-age children)
C. Maps showing growth or shifts in distribution of population within the county and affected schools
D. Projections of enrollment, by grade in respective attendance area, for the next ten years
E. Explanation of the projection method utilized

105.02 Facilities

A. Maps ~~showing existing educational facilities by size and type and their corresponding attendance zones. The map should include~~ showing the schools, by type and size, targeted for closure or consolidation and the schools that will receive the students

B. Physical appraisal of the school targeted for closure or consolidation and the school or schools which will receive the students. This appraisal should include age, number of buildings, general condition, adequacy related to structural, electrical and mechanical systems ~~and capacity~~ to provide a safe and healthful environment. Refer to SBA evaluation form.

C. Evaluation of the school targeted for closure or consolidation and the school or schools which will receive the students in regard to their adaptability to the present and proposed educational programs and the provision of related services

D. Measure of the utilization of the school targeted for consolidation or closure and the school which will receive the students in regard to the following:
   1. What is the operating capacity of each facility?
   2. ~~Is there under utilization or overcrowding?~~ What is the utilization factor of each school?
   3. What will be the effect of this proposed school closure or consolidation as to utilization and operating capacity?
   4. What is the projected enrollment of receiving schools?

E. Comparison of the accessibility (barrier-free environment) for the handicapped of the school targeted for closure or consolidation and the school or schools which will receive the students.

F. Elaboration of the effect the proposed school closing or consolidation will have on the school system's future plans regarding grade organization, educational programs and facility requirements.

105.03 Finance

~~A. Cost of maintaining the school system if the proposed school closure or consolidation is not implemented~~

~~B.~~ A. Itemization of the anticipated cost or savings the county will experience in all areas as a result of the proposed school closure or consolidation

~~C.~~ B. Cost of any renovation or addition resulting from the proposed school closure or consolidation

105.04 Personnel

An analysis of the effect the proposed school closure or consolidation will have on professional and service personnel

105.05 Transportation

An analysis of the effect the proposed school closure or consolidation will have on the county pupil transportation system - include present and proposed transportation times of the affected students.

105.06 Educational Program

Complete a projected educational program improvement analysis which includes a ~~detailed review of policies~~ statement of assurance that the following have been considered:

A. 2510 - Assuring the Quality of Education: Regulations for General, Vocational and Special Educational Programs
B. The Criteria of Excellence
C. Policy 6200 - Handbook on Planning School Facilities

105.07

Pursuant to West Virginia Code 18-5-13 and 18-5-13a, county boards of education must do the following by the first Monday in April:

A. Shall hold a public hearing, notice of which shall be advertised by publication in a newspaper in general circulation in the locality of the affected school at least once per week for four successive weeks prior to the date of hearing. The notice shall contain:
   1. Time and place of the hearing
   2. Proposed action of the board of education
B. Must have written reasons and supporting data regarding the proposed school closings or consolidations in the office of the county superintendent during the four consecutive weeks prior to the public hearing.
C. Copies of the notice of public hearing must also be posted in the school targeted for closure or consolidation in conspicuous working places for all professional and service personnel to observe and shall remain posted for four successive weeks.
D. At least a quorum of the school board members and the county superintendent from the county wherein the affected school is located shall attend and be present at the public hearing.
E. During the public hearing, members of the public shall have the right to be present, submit statements and testimony in their behalf and question county school officials.
F. After provisions A through E above have been completed, county boards of education must take a formal vote on the school closure or consolidation issue.

105.08

Once the statutory provisions have been complied with, and prior to implementation of any school closure or consolidation, the county's CEFP must be amended. The county must file this amendment with the state Board of Education for its approval and this amendment must:

A. Be signed by the county superintendent and give the date the action was taken by the local board.
B. Contain assurances that applicable sections of the West Virginia Code 18-5-13, (3), (4), (5), 18-5-13a, and Policy 6200 have been addressed.
C. Contain justification for the proposed consolidation or school closing. This justification must be supported by supplemental data and information pertinent to the following subjects: enrollment, facilities, finance, personnel, transportation and educational programs, as described above.
D. Contain documentation of all hearings, motions and other actions concerning the proposed school closings or consolidations.

105.09 Emergency Closure Consideration

Should the need for an emergency school closure exist, West Virginia Code 18-5-13 provides that the State Superintendent of Schools may make such a declaration. However, this would not waive the statutory requirements of 18-5-13a.

In order to merit consideration for emergency status by the State Superintendent, the following assurances must be met:

A. Educational program - educational opportunities are equal to or greater for students at the receiving school.

B. Transportation - proposed routing schedule does not result in undue time in transit for students according to recommended age appropriate travel times.

C. Exceptional students - programmatic offerings and educational spaces are appropriately accessible to handicapped students.

D. Health/safety - transfer of students would not result in any health/safety concerns which would adversely affect students and staff.

E. Capacity - receiving school has the capacity to adequately house projected enrollment.

200 SCHOOL SITE

All school sites provide sufficient space for the school building, future expansion, educational program activities and service facilities.

References:

~~2.~~ ~~F~~

5. American National Standards Institute A - 117.1 - 1980
6. National Flood Insurance Program

201 SITE SELECTION

201.01

Intelligent and imaginative school site selection and development are significant aspects of educational facility planning. Because the design and use of the land on which a school is built is fully as important as the design and use of the facility itself, the site's potential as an educational and community resource must be considered.

201.02

The selection of a site requires the cooperative effort of the Board, school staff, planning committee, architect and legal consultants. Since the educational program is of primary concern to the community, consideration should be given to lay membership on a site selection team.

201.03

Resources to be utilized when selecting sites may include: land-use maps, aerial photographs, soil maps, topographic maps, highway maps, flood control maps, neighborhood or school service area maps, pre-school and pupil spot maps, dwelling unit maps, utility service plans and realtors and developers intentions.

201.04

Factors to be considered in selecting a site may include: Number and grade level of students, nature of educational program, initial cost, development cost, transportation systems, availability of activities, provision for a safe and healthful environment and the protection of the investment in the building.

202 LOCATION

202.01

School sites shall be located in proper relationship with existing and proposed physical facilities in the community, including: student population centers, parks, recreation centers, libraries, health centers, streets, highways, residential housing and other schools.

202.02

The following one-way bus transportation time levels are considered the reasonable guidelines ~~maximums~~ for pupils transported to school:

A. Early childhood levels - thirty minutes
B. Middle childhood/junior high levels - forty-five minutes
C. Adolescent/high school education levels - sixty minutes
D. These ~~designated time limits~~ guidelines apply as follows:
   1. To normal weather and operating conditions
   2. Provided there is an appropriate school within the designated travel time - Counties may meet this need cooperatively
   3. To abide by West Virginia Board of Education Resolution (see Appendix)
   ~~3. Any unusual circumstances requiring departure from times must have written approval from the state superintendent of schools~~

202.03

For the safety of students, the site shall be located away from hazards and undesirable environments, such as:

A. Railroads, arterial highways, heavily traveled streets, traffic and congestion
B. Noise, toxic gas escapes from railroads, airports and odoriferous plants or industries
C. Natural barriers limiting accessibility and expansibility, such as rivers, lakes, swamps and protruding ridges
D. High voltage transmission lines, booster or reduction stations, high pressure gas lines and transformer stations
E. Taverns, fire stations, bulk storage plants for flammable liquid and property zoned as industrial
F. Situations where a combination of factors such as those presented above could contribute to the possibility of human entrapment

NOTE: Building sites must be located above the 100 year flood ~~zones~~ plain as determined by the U.S. Corp of Engineers and the National Flood Insurance Program.

202.04

Public service facilities which must be available for a school site include: water, gas, telephone, electricity, sewage disposal, fire protection and transportation.

203 SIZE

203.01

The size of any school site should provide sufficient and appropriate space for all of the in-school and evening activities.

203.02

With the assistance of an architect, trial layouts of the area required for a site should be made and include, but not necessarily be limited to, the following items:

A. The school building
B. Reserve for expansion of building
C. Set back from streets, sidewalks, approaches and driveways
D. Parking areas, access and buffer
E. Bicycle entrances and storage racks, with proper buffer areas.
F. Landscaping and buffer areas at the side and back of the site.

G. Paved game areas, including space for outdoor basketball and tennis courts.
H. Field game areas for physical education and recreation.
I. Areas for interscholastic athletics (which may overlap with field game areas.)
J. Possible athletic stadium with parking area, access and buffer.
K. Outdoor area (educational) for nature study, biology, art.
L. Possible driver instruction areas (auto).
M. Outdoor area adjacent to shops.
N. Unassigned areas held in reserve for future use.

203.03 School sites of the following minimum sizes shall be provided:

A. Early Childhood/Primary Education Programs (K-4)
~~10~~ 5 usable acres + 1 additional acre for every 100 pupils over 240 students

B. Middle Childhood/Junior High Education Programs (5-8)
~~20~~ 11 usable acres + 1 additional acre for every 100 pupils over 600 students

C. Adolescent/High School Education (9-12)
~~30~~ 15 usable acres + 1 additional acre for every 100 pupils over 800 students

D. Area Vocational Schools
10-40 acres

NOTE: If sewage treatment plants and retention ponds are required, acreage would have to be increased.

203.04
Site acreages are national norms and apply to traditional suburban schools. Where the nature of the neighborhood is urban, the school site shall also be urban in scale. Where the terrain limits the land available, this factor shall be considered. One remedial measure would be to locate schools adjacent to parks or recreation facilities. However, all sites not meeting the minimum standards must be approved by the West Virginia Board of Education.

203.05
For modern schools, a portion of the site should be set aside to meet needs that are bound to arise in the future. Many schools constructed in the past have become obsolete because they lacked sufficient size to warrant economical rehabilitation or enlargement. Buying an adequate site is insurance against such educational obsolescence.

204 PHYSICAL FEATURES

204.01
Ordinarily, a school site should not enhance the cost of construction and should permit the architect to place the building in an appropriate place in relation to other facilities to be developed on the site. The services of an architect, other related specialists and consultants from the School Planning office of the State Department of Education are necessary to judge a site on this criterion.

204.02

A natural elevation with satisfactory approaches avoiding long or difficult climbs makes a desirable setting. The site should be free from drainage from contiguous land and should permit proper drainage throughout at a reasonable cost. Rapid drainage and quick drying should characterize the parts of the site which are expected to serve as recreational and physical education areas. The soil, preferably a sandy loam, should be fertile enough to produce good lawns and vigorous landscaping growth.

204.03

There are many site factors which affect cost apart from the purchase price of the land. The following conditions are to be determined in advance and considered along with the purchase price.

A. The need for extensive hauling of dirt due to a surplus or shortage on the site
B. The presence of quicksand, deep mines, unsatisfactory fill, pyrites or other undesirable subsoil conditions which require special footings or pilings to support the building
C. The presence of rock or other conditions affecting the cost of necessary excavation or ditches
D. The need for the removal of obstructions, such as large boulders or trees; the need for fillings or capping of old wells, clay holes, pits or mines
E. An unduly expensive drainage need
F. The need for constructing and maintaining long access drives and special installations due to distance from service utilities

204.04

Approval will not be granted for construction of a facility on a site lacking municipal water, adequate fire protection and sewage services without the approval of local or state health agencies. No water supply can be considered acceptable unless it provides an ample quantity of safe and potable water for the school.

204.05

Local or state health agencies will also provide information regarding the required type and location of a sewage disposal system.

204.06

The subsoil of a site must provide good drainage and a proper base for economical and substantial foundations for the building. No building shall be designed until the subsoil conditions have been determined for the entire area of the building by adequate test borings or core drilling made under the direction of an experienced soils engineer. Soil tests are particularly important for schools that require extensive grading. Underground investigation shall also include the ownership and presence of mineral rights, mines and wells and the effect they have on the site development. The recommendation is made that mineral rights be controlled for long term protection of surface usage.

204.07

Some adverse site conditions can be overcome by modern construction methods, but they should be accepted only when the costs of such improvements are reasonable. Many of these conditions are not readily seen at the surface. Before the land is purchased, test borings should be made to accurately determine subsoil conditions and the results should be analyzed and interpreted for the board by a competent soils engineer.

NOTE: Boards of education and county superintendents may secure soils information from the United States Department of Agriculture, Soil Conservation Service, Morgantown, West Virginia. This service is provided without cost and could save thousands of dollars by assisting in properly locating schools. Soils are rated by various degrees of limitations such as slight, medium, severe and very severe. Through use of this information, the contracting organization can require certain specifications that prevent problems due to soil limitations.

204.08

Sites should be of such shape and contour as to yield reasonable space for the setting of the building and for drives, walks, play and athletic fields. The contour for a site is a slightly convex surface with the high point at the position of the building. This situation is rarely, if ever found and some reshaping and grading will be necessary on almost every site.

204.09

Cost for excavating and foundation walls can be reduced by fitting the building to the contours of the land. Extra expense for special footings and special drainage can be eliminated by placing the building on high ground and where subsoil conditions are known to be favorable. Proper placement of the building will reduce the length of utility and drainage lines, drives and walks, thus reducing costs.

205 RECREATIONAL AREAS

All schools housing early childhood education programs contain an adequate blacktopped play area and a field game area large enough to accommodate physical education activities. All centers housing kindergarten programs contain a segregated blacktopped area and a large grassy area with climbing equipment and swings. The playground may be segregated by either time or space allocation. All middle, junior high and high school sites contain a blacktopped play area with a minimum size of four thousand, eight hundred square feet and a field game area, space and/or facilities large enough to accommodate physical education activities such as soccer, touch football, softball, tennis and track.

NOTE: Dimension given refers to actual field or court dimension; additional space should be provided for spectators.

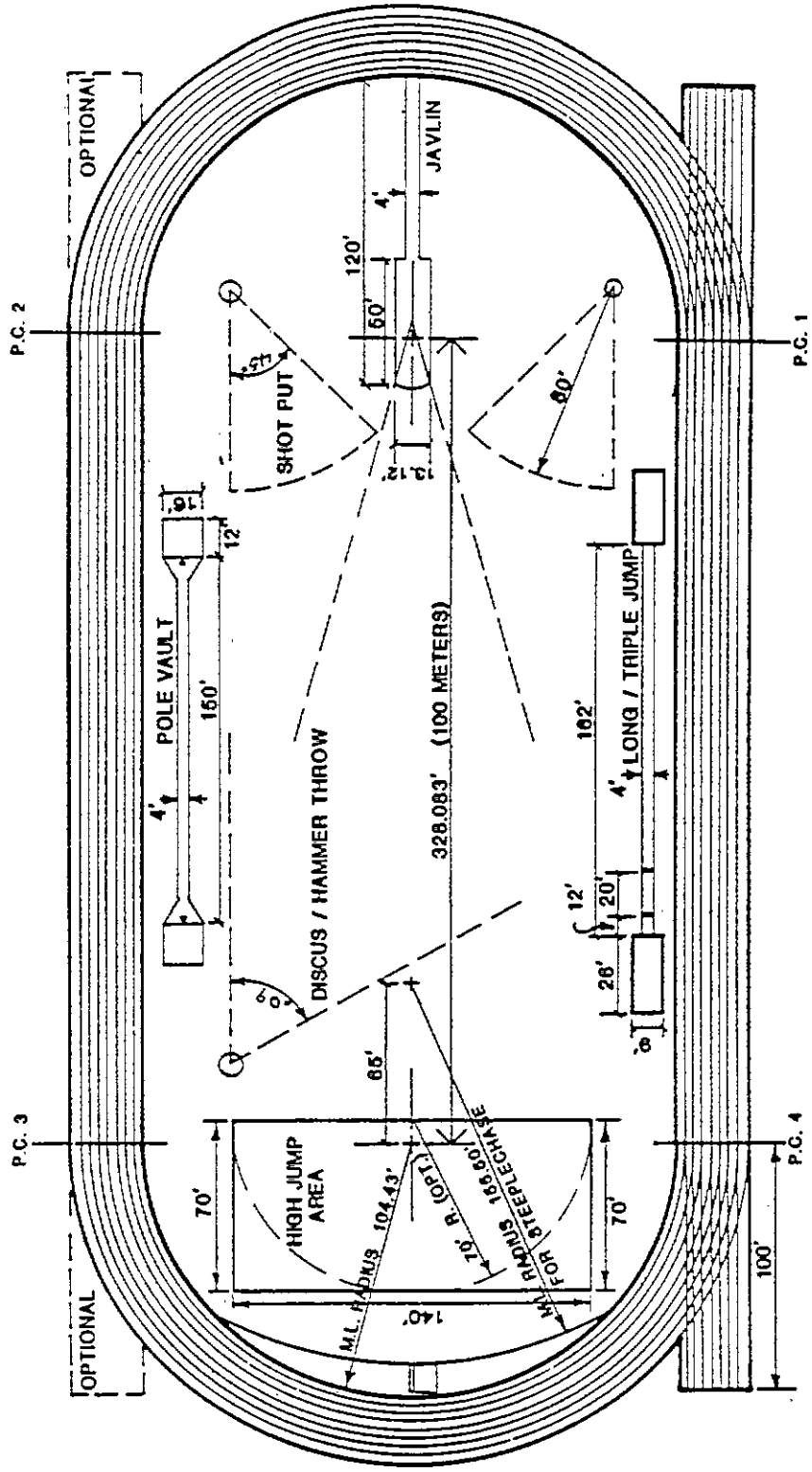
TABLE 1

FIELD AND COURT DIMENSIONS

School

Activity	Early Childhood/ Primary	Middle Childhood/ Junior High	Adolescent/ High School
Baseball			350' x 350'
Basketball	40' x 60'	50' x 84'	50' x 94'
Football & Track(1)			300' x 600'
Football, Six-man			120' x 300'
Football, Touch		120' x 300'	160' x 360'
Hockey, Field			180' x 300'
Hockey, Ice			85' x 200'
Softball(2)	150' x 150'	200' x 200'	250' x 250'
Soccer			165' x 300'
Swimming			60' x 100'
Volleyball	25' x 50'	25' x 50'	30' x 60'
Archery		50' x 150'	50' x 300'
Badminton			20' x 44'
Handball	18' x 26'	18' x 26'	20' x 40'
Horseshoes		10' x 40'	10' x 50'
Shuffleboard			6' x 52'
Tennis		36' x 78'	36' x 78'
Tennis, Deck			18' x 40'
Tennis, Paddle			20' x 44'
Tetherball	10' circle	12' circle	12' circle

(1) Assumes Metric Track
(2) Varies according to ball size



8 LANE METRIC TRACK LAYOUT

206 WALKS, DRIVES AND PARKING

All walks, drives and parking areas are paved. Parking space is adequate to accommodate school visitors, employees, pupils who must drive, school buses, and school activities. Parking space is provided for the handicapped, and the site is accessible to the handicapped. The bus loading zone is designed to accommodate safely all buses anticipated at one time and is separated from all traffic using school parking and driveway areas. The exterior area is appropriately lighted.

206.01

Walks should be direct, convenient and natural to encourage people to stay on them. They should connect the building with streets or highways, the bus loading zone, parking areas and auxiliary school facilities. Limiting points of access is desirable for control of traffic. Main walks, such as loading areas, and main entrances should be constructed with initial building program. Additional walks should be constructed after traffic patterns have been established.

206.02

Walks should be paved in lanes at least 22 inches (24 inches desirable) wide, with a minimum of three lanes for a total width of at least 66 inches (72 inches desirable).

206.03

Walks should be far enough from building to permit ample space for shrubbery, crowned or sloped high enough for proper drainage and illuminated for night use. Wide paved areas at entrances will help keep the building clean by catching dirt from shoes and overshoes before it gets inside; and a good slope will make this area easier to keep clean. They shall have a gradient of not more than five percent. Walks should be of a continuing common surface where practical and should not be interrupted by steps or abrupt changes in level. Walks, driveways or parking lots should blend to a common level.

206.04

Safety is a primary consideration in locating vehicular circulation on the school site. Secondary considerations are economy, convenience and directness. Driveways should be:

A. One way with clear views. Two lanes should be provided to main loading entrance and parking areas.
B. Hard surfaced, properly drained and illuminated for night use.
C. Planned to provide access and control traffic to loading areas and building service entrances. Wherever practical, driveways for buses should be separate.
D. Located so as not to connect to a heavily traveled highway if a lightly traveled street is accessible. Points of access to the site should be limited.
E. Of adequate space to insure that carbon monoxide does not accumulate in idling vehicles or school buses.

F. Every educational facility not readily accessible from public roads shall be provided with suitable gates, access roads and fire lanes so that all buildings are accessible to fire apparatus. Fire lanes shall be at least 20 feet in width, with the road edge closest to the building at least 10 feet from the buildings. Any dead end road shall be provided with a turn-around at the closed end at least 90 feet in diameter.

206.05

Parking needs of the following should be met:

A. Teachers, pupils and other school employees.
B. Parents, school visitors and salesmen.
C. Spectator groups attending school or public activities.
D. The handicapped.

206.06

Parking spaces can be provided at the rate of about 125 cars per acre. The following quantities are suggested as reasonable:

A. For staff and incidental school time parking: Two parking spaces per teaching station.
B. For pupils: A survey should be conducted for pupil parking needs at the adolescent/high school level and space provided as necessary.
C. For spectators:
    1. Rural areas - One parking space per three seats for spectators.
    2. Urban areas - One parking space for each six to eight seats, or to suit local codes and conditions.

206.07

Consideration should be given to the following parking arrangements:

A. Car parking should be arranged to minimize backing. Parking areas should be hard surfaced, well drained and illuminated for night use. Traffic control signs are necessary.
B. Car parking should not be permitted on streets with street traffic, on pedestrian lanes, or on driveways or loading areas. It should be away from playgrounds but near spectator areas when practical.
C. Parking for wheelchair and other handicapped persons must be provided near entrances if possible.

206.08

The bus loading zone should be designed to accommodate all buses anticipated at one time. This should be based on:

A. A transportation survey covering bus schedules, partial unloading or transfer of pupils, provision for handicapped children and parking.
B. Number of pupils transported, based on the average number of pupils per bus or rated capacity of the bus.
C. Future growth or possible changes in the transportation pattern.

206.09
The bus parking area should be designed in connection with the bus loading zone, independent of driveways, so that backing the vehicle is unnecessary. It should be permanently surfaced and well drained, with designated spaces and traffic control signs.

206.10
Bicycle racks near the building are desirable for some schools. A survey to determine the need should indicate the rack space necessary.

207 FIRE PROTECTION

207.01
All school facilities shall have, where possible, fire hydrants at recommended locations to achieve the best fire insurance assessment. Coordinate the type of hydrant required with the local fire department.

208 SAFETY AND CLEANLINESS

208.01
All school buildings and grounds shall be kept clean and free from debris. All school buildings, grounds, and equipment are free from safety hazards.

209 SITE BEAUTIFICATION

Site development and beautification plan must be implemented.

209.01
The site should lend itself readily to landscaping and provide a pleasant natural environment. It should permit the location of the building an adequate distance from the street line, both for aesthetic setting and for the safety of children.

209.02
The site plan presented by the architect should encompass the total site and show future developments. The same general procedures used for planning the building are appropriate for outdoor facilities. The process of educational planning, writing educational specifications and architectural designing are as applicable to sites as to buildings.

209.03
Well planned site plantings for individual schools should be prepared with the assistance of qualified personnel, such as landscape architects and nurserymen. (There are personnel at West Virginia University and the U.S. Soil Conservation Service who will assist in planning for site beautification.)

209.04
No school site plan should be considered adequate without an accompanying planting plan. The site design should consider the harmonious visual integration of the varied plantings with the mass of buildings from all points of view.

209.05

The classes of plants usually used on school grounds are: shade trees, evergreens, evergreen shrubs, deciduous flowering shrubs and ground covers such as grasses. In general, a school ground planting scheme will consist of foundation planting, intersection planting of shrubs at angles and curves of drives and walks, tall trees to frame the building and trees planted in groves for shade.

209.06

The choice of plants should be limited to those varieties that:

A. Require minimum maintenance.
B. Are known to be sturdy.
C. Thrive in recreational areas.
D. Tolerate normal amounts of dry weather.

209.07

Save all usable existing topsoil on the site. It can be replaced only at great expense. An analysis of the topsoil should be made to determine plant food requirements for the plantings provided.

209.08

Retain and protect as many existing trees as it is possible to absorb in the total plan. If all the planting cannot be done at once, plant shade or larger trees first. Locate trees in relation to the building so as to shield classrooms from brightness of the sky, reflected snow glare and glare from adjacent buildings and to provide shade.

209.09

Each school site should have a master plan for plantings approved by the Board of Education. Plantings provided by citizens and/or pupils should be in accordance with the approved plan and should be sanctioned by the Board of Education prior to the expenditure of money for such plantings.

300 FACILITIES NECESSARY FOR THE OPERATION OF ALL SCHOOLS

All schools contain the instructional and auxiliary facilities which are necessary to maintain the educational program and accommodate the out-of-classroom needs of both students and staff. The design possibilities for such spaces have increased with the emergence of diverse concepts in school design, increased use of non-printed media, expanded awareness of student/teacher human needs, recognition of the school as a community resource and improved technology. The planning of auxiliary spaces must involve careful consideration of the future adequacy of the spaces for, while additional classrooms can be appended with some ease, the expansion of auxiliary spaces can seldom be accomplished easily after completion of initial construction. Thus, when auxiliary facilities become obsolete and inefficient, the usefulness of the entire facility may be diminished.

In the planning and design of new school facilities, designers should always strive to attain maximum efficiencies by looking at multi-use spaces and shared facilities in both the instructional and auxiliary areas.

301 ADMINISTRATION AND SPECIAL FACILITIES

References:
2. H - 9 & 10

All schools provide the administrative offices necessary for the operation of the school. The school contains a guidance area designed and located to allow privacy, with an entrance separate from the administrative suite. The guidance office is of adequate size to allow for group discussions and is convenient to student records. The guidance office contains adequate secured storage facilities, outside telephone service and an information display area. The school also contains a health service area which includes an examination room, toilet facilities and an area for the ill. The health area is equipped to facilitate the operation of its users and contains outside telephone service. Appropriately equipped areas are available for supplies and book storage, duplicating and/or other activities, conferences and/or small group discussions, staff lounge and student and teacher toilets. A control room, within or adjacent to the administrative suite, is provided to house the communication and fire alarm systems. Factors influencing the location of administrative facilities include: Proximity to the main entrance of the school, convenient access to the instructional areas of the building, insulation from outside noises and convenient access to the special service facilities. These facilities may be used during the summer months; therefore, air-conditioning should be considered.

301.01 General Office and Reception/Waiting Area

301.011 Size

Dependent upon initial enrollment, type of school and ultimate enrollment of the school; 200 to 800 square feet will likely be needed for secretarial and reception areas.

301.012 Location

A. At the hub of the administrative suite
B. Direct access to a building corridor and to work room
C. Direct or convenient access to offices of the principal and assistant principal and other rooms in the administrative suite
D. Location should provide convenient access to the special service facilities
E. Near main entrance to facility

301.013 Activities

Reception of school visitors, pupils and staff; general secretarial activities required in the operation of the school.

301.014 Equipment Space and Facilities

A. Counter separating reception-waiting room or area from the secretarial work area
B. Comfortable chairs in reception area
C. Small table for magazines and other literature
D. Display space and tackboard
E. Mail boxes for faculty members, located for easy access without interference with main office traffic
F. Secretarial furniture
G. Fire-safe record file or vault
H. Master telephone station or other communications to all locations in the administrative and special service areas
I. Carpeting or resilient floor covering

301.02 Principal's Office

301.021 Size - 125 to 200 Square Feet

301.022 Location

A. Direct or convenient access to general office
B. Convenient access to the corridor without going through the general office
C. Convenient access to other areas in the administrative suite

301.023 Activities

Planning, research and administrative activities conducted individually or in small groups.

301.024 Equipment Space and Facilities

A. Room design should permit the principal to confer without being overheard in adjacent areas
B. Conference desk and chair
C. Work table convenient to desk for layout work
D. Conference chairs

E. Bookshelving - ten to 15 linear feet
F. Storage for personal belongings
G. Telephone service and intercom to secretary in general office

301.03 Assistant Principal's Office
Optional - depending upon enrollment.

301.031 Size - 125 to 200 Square Feet

301.032 Location
Convenient access to general office and principal's office.

301.033 Activities
Planning, research and administrative activities conducted individually or in small groups.

301.034 Equipment Space and Facilities
A. Room design should permit the assistant principal to confer without being overheard in adjacent areas
B. Conference desk and chair
C. Work table convenient to desk for layout work
D. Conference chairs
E. Bookshelving: Ten to 15 linear feet
F. Storage for personal belongings
G. Telephone service and intercom to secretary in general office

301.04 General Office - Teacher's Work Room

301.041 Size - 150 to 250 Square Feet

301.042 Location
Direct access to the general office and waiting room.

301.043 Activities
Preparation of testing materials, reports and layouts of instructional materials by both secretarial and teaching personnel.

301.044 Equipment Space and Facilities
A. Combination of open shelving and closed cabinets for storage of a variety of supplies and equipment
B. Duplicating machine
C. Typewriters
D. Calculator
E. Work table or counter
F. Lavatory
G. Microcomputer work station
H. Forced ventilation

301.05 Teacher Planning Space (Optional)

Teacher planning spaces are provided to increase classroom space utilization and should reduce the number of classrooms required.

301.051 Size - 50 to 75 Square Feet Per Planning Area

301.052 Location
Convenient access to the instructional spaces for departmentalized program offerings.

301.053 Activities
Planning and maintaining of records for teachers. Individualized or shared study/work space.

301.054 Equipment
A. One desk
B. Two lockable filing cabinets
C. Other equipment as selected

301.06 Supply and Book Storage Room

301.061 Size - 100 to 400 Square Feet

301.062 Location
A. Convenient access to the general office
B. Direct opening to corridor through "dutch door" or window to permit distribution of books and supplies

301.063 Activities
Storage and distribution of instructional materials and supplies, including books, paper, notebooks, erasers and pencils.

301.064 Equipment Space and Facilities
A. Cabinets and shelving for books and other school supplies and materials
B. Desk and chair
C. Work counter or table space
D. Filing space
E. Small wall safe for temporary storage of small sums of money and other valuables (optional)

301.07 Record Vault (Optional)

NOTE: Vault may be eliminated by providing fire-resistant filing cabinets in the general office or other storage area.

301.071 Size - 50 to 75 Square Feet

301.072 Location
Direct or convenient access from the general office and to guidance and health areas.

301.073 Activities
Storage of current and inactive pupil records.

301.074 Equipment Space and Facilities

A. General construction should be fire-resistant
B. Cart storage units are preferable for current pupil records

301.08 Conference Room

301.081 Size - 150 to 300 Square Feet

301.082 Location

A. Convenient access to general office, principal's office, counselors' offices and the public-address system control room
B. Design and location should permit groups to confer without being overheard in adjacent rooms

301.083 Activities

Conference room will be used for conferences involving five to twelve people and for program broadcasts to instructional areas.

301.084 Equipment Space and Facilities

A. Conference table and chairs
B. Chalkboard - six to eight linear feet
C. Tackboard - four to six linear feet
D. Glazed panel between conference area and public address system control room
E. Forced ventilation

301.09 Public-Address System Control Room

301.091 Size - ~~75~~ 50 to ~~100~~ 75 Square Feet

301.092 Location

A. Adjacent to conference room
B. Convenient access to general office and principal's office

301.093 Activities

Distribution of information and educational programs within the school.

301.094 Equipment Space and Facilities:

A. Common partition between this room and the conference room should be glazed. Equip with draperies for isolation of conference room when used for other purposes.
B. Adequate sound and electrical outlets in conferences and control room
C. Public-address control system panel with orientation toward conference rooms
D. Storage facilities for audio supplies and equipment such as records, tape recordings, sound effects, microphone stands and similar equipment

NOTE: The following facilities should be closely related to the administrative facilities for internal communication purposes, such as sharing pupil records and using conference room facilities; however, separate entrances and waiting areas may be provided.

301.10 Counselors' Office

301.101 Size - 100 to 125 Square Feet Per Counselor

301.102 Location

A. Direct access from reception area and convenient access to conference room and general office in the administrative suite
B. Design and location should permit conferences without voices being overheard in the adjacent areas
C. Easy access to student records

301.103 Activities

Individual and group guidance, counseling and conferences with pupils, parents and teachers.

301.104 Equipment Space and Facilities

A. Desk and chair
B. Conference chairs
C. Shelving - ten to 15 linear feet
D. Tackboard - four to six linear feet
E. Storage for personal belongings
F. Telephone communications with general office and intercom to secretary; require private telephone line or lines to the counselor's office
G. One four drawer file cabinet with lock for each counselor

NOTE: Separate waiting and storage rooms are desirable.

301.105 Professional Support Staff

Reference: Chapter 7

301.11 Health Service Unit

301.111 Size

250 to 400 square feet. (At least 20 linear feet in one dimension for vision screen)

301.112 Location

Direct access from waiting area and from building corridor to permit traffic to pass through the area for various screening tests. Adjacent to general office for access to student records.

301.113 Activities

Examinations by nurses, doctors, dental hygienists, administration of first aid and conferences with students, parents and teachers.

301.114 Equipment Space and Facilities

A. Small room or curtained area with cots for each sex, to permit rest and isolation in case of illness
B. Tackboard
C. Toilet, lavatory and water closet conforming to requirements for the physically handicapped
D. Scales, medicine chest, ~~sterilizer~~, refrigerator with locked storage area, mirror, clock and first aid kit
E. Storage for bed linens
F. Storage closet for nurses' personal belongings (locked)
G. Work counter with sink
H. Locked file cabinet
I. Desk and chair
J. Conference chairs
K. Locked medication box

301.12 Reception Room (For Larger Facilities)

301.121 Size - 100 to 150 Square Feet

301.122 Location
Direct access to counselor offices, health unit and professional support staff.

301.123 Activities
Reception of and browsing by pupils and parents.

301.124 Equipment Space and Facilities
A. Secretarial desk and chair
B. Typewriter and stand
C. Comfortable chairs
D. Shelving for books, magazines, and variety of occupational information and college bulletins
E. Filing cabinet for occupational information not displayed on racks
F. Telephone to general office and outside

301.13 Teachers' Lounge

301.131 Size - According to Faculty Number

301.132 Location
A. Direct access from a building corridor
B. Location avoiding major pupil traffic, yet reasonably close to the administrative area
C. Toilets should not have direct opening into the lounge area

301.133 Equipment Space and Facilities
A. Comfortable lounge furniture
B. Kitchenette to prepare light refreshments (optional)
C. Adequate ventilation
D. Toilets - facilities must conform to U.S.A. Standard Specifications or similar provisions as stated in Chapter 18, Article 10F of the Code of West Virginia for making

buildings accessible to and usable by the physically handicapped. A.117.1 - 1961 American National Standards Institute, 1430 Broadway, New York, N.Y. 10018.

302 FOOD SERVICE FACILITIES

References:
2. H - 5 & 6

All schools contain a food service area which provides for receiving, storage, cooking, serving, dining and dishwashing. Space for lockers, toilet facilities, and an office is provided.The facility is designed to promote cleanliness and easy maintenance. The dining area is separated from the food serving and preparation areas and provides space sufficient to allow for the student body to be fed within a ninety minute time period or to seat one-third of the student body. Area is to be located convenient to service drive for deliveries or removal of wastes. Food preparation at a central or satellite kitchen and delivery to each school is an acceptable alternative; however, if this method is utilized, warming and serving facilities must be provided at each school.

302.01 Dining Rooms

302.011 Size
Base preliminary determination of allotment on 12 to 15 square feet per pupil seated at any one time. Provisions for subdividing large areas should be considered.

302.012 Location
A. First floor location
B. Adjacent to kitchen
C. Direct access from the building corridor
D. Maximum utilization of natural beauty in the vicinity
E. Complete separation from both food preparation and serving areas

302.02 Teachers' Dining and Student Conference Room (Optional) ~~(Depending upon school enrollment)~~

302.021 Size - 250 to 350 Square Feet

302.022 Location
Convenient access to serving area, building corridor and general dining area.

302.023 Activities
Dining and meetings of teachers and staff members; committee work by pupils.

302.024 Equipment Space and Facilities
A. Tables and chairs suitable for dining and study purposes
B. Chalkboard - eight to 10 linear feet

C. Tackboard - four linear feet
D. Glazed panel between this area and the dining room to permit ease of supervision; should be equipped with draperies to permit isolation when supervision is not necessary

302.03 Kitchen

302.031 Size

Dependent upon number of meals served during the school day, approximately two square feet per meal served, a minimum of 500 square feet. Twenty-five to thirty percent of total foods area should be used for kitchen.

302.032 Location

A. Easy access to pupils in the serving line
B. Direct access from the outside of building for delivery of supplies and equipment and disposal of wastes
C. To facilitate the serving of large community gatherings in this space or in the physical education area

302.033 Equipment Space and Facilities

A. Small bulletin board near entrance and adjacent to serving line to promote quick and efficient service
B. Floor covering qualities: utility, durability and resiliency. Floors should be impervious to moisture, grease and food stains. They should be non-slippery and resistant to scratches, acid, alkali or organic solvents. Maintenance and upkeep relatively low. Install drains.
C. Wall and ceiling surfaces should be readily maintained and not affected by steam or heat. Tile wainscot at least five feet high. Sound absorbent material for ceilings.
D. Adequate ventilation is essential for workers and to reduce food odor penetrations into dining area.
E. Adequate built-in and movable equipment for efficient, sanitary preparation and serving of food. Where possible, equipment should be movable for efficiency and ease of cleaning walls and floors. Select equipment for its use and specific needs.
F. Lavatory in kitchen; workers' restroom adjacent to kitchen, but with no direct opening into the kitchen, dishwashing area or food storage area.
G. All kitchen equipment and facilities shall comply with state regulatory agency requirements.

302.04 Food Storage

302.041 Size

Minimum of one-half square foot per meal served; one-and-one-half to two cubic feet per meal served for small operation; and one cubic foot for long time storage such as walk-in cooler. Include dry storage area.

302.042 Location

A. Immediate access to receiving area
B. Convenient access to food preparation area

302.043 Equipment Space and Facilities

A. Areas must be dry, cool and insect and rodent proof throughout; therefore, heating pipes, water heaters and compressors should not be located in this area.
B. Adequate ventilation from outdoors
C. Adequate shelving - limit height to seven feet six inches
D. Storage at floor level for large sacks of commodities on portable platforms or in covered containers on dollies

302.05 Nonfood Storage

302.051 Size - 40 to 60 Square Feet

302.052 Location

Immediate access from food preparation and storage area.

302.053 Function

Provide storage of soaps, detergents, wetting agents and other cleaning supplies and equipment required in the daily operation and maintenance of the food service center. A separate, locked cabinet for insecticides, rodenticides and other toxic compounds should be available.

302.054 Equipment Space and Facilities

Service sink, washer, dryer and variety of shelving.

302.06 Locker-Dressing Room

302.061 Size - 75 to 100 Square Feet

302.062 Location - Adjacent to Kitchen Area

302.063 Equipment Space and Facilities

A. Lockers - full length
B. Mirror
C. Chairs or benches - two or three
D. Toilet

302.07 Serving Area

302.071 Size

Dependent upon the number of meals to be served at any one time and method of serving. Use 200 square feet for preliminary planning.

302.08 Dishwashing Area

302.081 Size

Dependent upon method of cleaning and sanitizing dishes and number of meals served. Use 200 square feet for preliminary planning.

302.09 Receiving/Maintenance Area

302.091 Size
Provide approximately 75 square feet for can wash and waste holding. (Provide exterior concrete pad with easy access if a dumpster unit is used.)

303 LIBRARY/LEARNING RESOURCE CENTER OR MEDIA CENTER

References:
2. G - 26

All schools contain a center which is located, designed and equipped to facilitate the instructional program. This center is a space for the organization, storage, lending and on-site use of learning aids for all school educational programs. It should house not only conventional library materials, (books, newspapers, periodicals, and pamphlets), but also recordings, tapes, filmstrips, slides and microfilm, as well as equipment necessary for their use. The center should be comfortable and attractive. The environment should be pleasant, and the space should be organized to permit quiet, solitary study, group interaction, easy location, inspection and use of materials, and convenient flow of traffic between areas. The success of the center will depend, to a large degree, on the organization of space and materials, the furniture and the manner in which the center is operated. The center should be centrally located to insure easy access. A main floor location is usually preferable. The center should be located away from noisy areas like the gymnasium and should be placed so that physical expansion will be possible if necessary. Another consideration in locating the center is access from outside when other parts of the school building are closed. The size of the facility should be appropriate for school enrollment and should accommodate the current collection of printed and other materials as well as anticipated acquisitions. The nature of the facility will depend on the educational level of the students although there are some common requirements which are unaffected by the age of the users. For instance, carpeting of floors will insure a low noise level; walls should be treated too so that maintenance requirements are not excessive; ceilings should provide desired acoustical level; heating and ventilating outlets should be installed so that they do not interfere with shelving and so that heat flow will not damage books; and electrical outlets should be accessible where audiovisual and other equipment will be used.

303.01 Circulation Area

303.011 Space Allocation - 150 to 200 Square Feet

303.012 Activities
Exhibits, copying equipment, card catalogs, periodical indexes and charging. (Provisions for microcomputer work station.)

303.02 Reading/Browsing Area

303.021 Size - ~~Forty~~ Thirty Square Feet Per Reader

303.022 Capacity
~~Ten~~ Eight to ~~fifteen~~ twelve percent of the total student body. Provision should be made to include a story telling area at the elementary level.

303.023 Location
See factors mentioned in comment about this center in 303.

303.024 Activities
General reading, reference and research work with encyclopedias, books, dictionaries, maps, pamphlets, charts, globes and pictures; browsing; viewing displays; magazines; charge-out of materials; previewing non-book materials; and class instruction in the use of the library.

303.025 Equipment Space and Facilities

A. Provisions for microcomputer work stations
B. Tables of various sizes, shapes and chairs (All furniture should be sized to the students using it)
C. Vertical files
D. Reference stands for dictionaries
E. Map stand
F. Storytelling area
G. Informal reading area - periodicals and books; lounge-type furniture
H. Book trucks
I. Wet and dry carrels
J. Movable shelving - five feet, not to exceed six feet, high and twelve inches deep
K. Electrical outlets available. Duplex service receptacles should be installed on all walls. Sufficient branch electrical circuits service should be in each room.
L. Where there are to be specialized facilities such as language labs, study carrels, micro-teaching and television, provision should be made for electrical service in the floor.
M. Conduits should be provided to permit future installation of computer terminals, television and other electronic instructional devices.
N. System conduits should be at least one-and-one-half inches in diameter in order to provide for installation of television and other teaching devices as indicated above.
O. Acoustical treatment in this area is essential. Use of audio devices mandates acoustical treatment of walls, ceilings and floors in media centers and other such areas.
P. Carpeting
Q. Light control. Adequate provision for controlling the light level in instructional areas is essential. (For efficient use of projection-type materials, the light in the room, particularly in the area of the projection surface, should not exceed one-tenth foot candle.)

R. For preservation of book and non-book materials and equipment, temperature and humidity control are essential. Air conditioning of media center and production area is recommended.

303.03 Director's Office

303.031 Size
Space, depending upon size of staff, approximately 150-200 square feet.

303.032 Location
Should be located adjacent to, and connected with, the circulation area. A glass partition should be placed in the wall between this area and the office.

303.04 Maintenance, Repair and Distribution Area

303.041 Size - 300 to 400 Square Feet

303.042 Location
Readily accessible to the administration and reading/browsing areas.

303.043 Activities
Processing, maintenance and minor repairs of book and non-book materials and equipment.

303.044 Equipment Space and Facilities:
A. Counter tops
B. Storage cabinets
C. Typewriters
D. Sink
E. Electrical outlets
F. Shelving

303.05 Media Production Lab <u>(Optional)</u>

303.051 Size - 300 to 400 Square Feet

303.052 Location
Accessible to administration area and main building corridor.

303.053 Activities
Production of photographic, graphic and audio materials.

303.054 Equipment Space and Facilities
A. Refrigerator
B. Sink with running water
C. Electrical outlets
D. Exhaust fans
E. Standard darkroom with equipment
F. Light control

G. Floor drains
H. Air conditioning
I. Basic graphic production equipment
J. Basic audio production equipment
K. Duplicating equipment

303.06 Viewing/Listening/Conference Area

303.061 Size
150-200 square feet with provision for subdivision into viewing/listening or conference areas by movable walls. Provide multi-spaces for larger facilities.

303.062 Location
Accessible to reading/browsing area.

303.063 Activities
Seminars and small group seminars; previewing; listening to recordings.

303.064 Equipment Space and Facilities
A. Adequate electrical outlets
B. Acoustical treatment
C. Light control of each small area

303.07 Equipment Storage Area (Instructional materials, supplies and equipment)

303.071 Size - 300 to 400 ~~600~~ Square Feet

303.072 Design Capacity
Storage of all audiovisual equipment during vacation period.

303.073 Location
Adjacent to work room. Limited access with provision for maximum security.

303.074 Activities - Storage and Circulation

303.075 Equipment Space and Facilities
A. Temperature, humidity and dust control
B. Locking storage cabinets
C. Minimum three foot door with lock without threshold strip
D. Fire protection
E. Eighteen inch shelving

303.08 Periodical, Book and Newspaper Storage Area

303.081 Size - 150 to 200 Square Feet

303.082 Location
Adjacent to reading/browsing area.

303.083 Activities

Storage of periodicals, newspapers, books and non-circulating materials.

303.084 Equipment Space and Facilities

A. Eighteen inch shelving
B. Work table
C. Temperature and humidity control

Enrollment			Physical Facility
			F. Learning Resource Center
4	4	4	1. Reading/Browsing Area
4	4	4	2. Director's Office
4	4	4	3. Maintenance, Repair and Work Area
4	4	4	4. Production Area
4	4	4	5. Viewing/Listening Area
4	4	4	6. Equipment Storage Area
4	4	4	7. Periodical, book and newspaper storage area
			G. Instructional Areas
2	1	1	1. Art
2	1	1	2. Science
2	1	1	3. Art/Science Storage
			H. Toilets
1	1	1	1. Students
1	1	1	2. Staff
			I. Custodial
1	1	1	1. Office intercom and toilet
1	1	1	2. Receiving, storage, disposal and workroom
1	1	1	3. Outside storage for lawn tools and equipment
1	1	1	4. Slop sink areas
1	1	1	J. Heating plant and fuel storage
			Service Facilities
1	1	1	A. Light
1	1	1	B. Heat, ventilation & air conditioning
1	1	1	C. Telephone
1	1	1	D. Educational television
1	1	1	E. Water
1	1	1	F. Sewage

1 Facilities provided in each center for specified purpose.

2 Facilities provided in each center; however, multiple use may be made of a single space. The space must be designed and equipped to permit its use for various purposes during the school day.

3 Separate facility provided in each center, but should be planned to accommodate compatible activities.

4 Facilities should be provided in each school.
NOTE: Planning may permit combining areas.

5 Facilities provided in each center where included in educational program.

402 KINDERGARTEN AND TRANSITIONAL KINDERGARTEN

402.01 Size

Base the preliminary determination of early childhood education areas upon the allotment of 50 square feet per child inside and 75 square feet outside the perimeter walls of the building.

402.02 Design Capacity - 20 pupils

402.03 Location

A. On ground floor with easy access to an entrance not generally used by older children. Corner areas are also preferable to permit the development of separate, fenced-in play areas.
B. Direct access to segregated outdoor play area that contains a covered all weather area and a large grassy area with climbing equipment, obstacle course and garden area and adequate storage for equipment.
C. Area of the building which permits maximum natural light.

402.04 Activities

Major learning activities include: Units of work on areas of immediate interest, physical education, conversation, discussion, listening activities and creative activities with various media.

402.05 Equipment Space and Facilities

A. Work areas
    1. Deep sink equipped with mud trap, hot and cold water
    2. Waterproof counter top - two square feet per child with shelving beneath. Counter height to accommodate five year old children
    3. Grounded duplex electrical outlets at three foot intervals over counter top
       NOTE: Avoid placing over sink
    4. Facilities for hanging mobiles from ceiling
B. Instructional space and storage area for activities related to: art, science and nature, music and rhythmics, language development, creative play, crafts and construction
C. Pupil wrap area (storage for personal belongings)
D. Toilet facilities (within the early childhood area) and drinking fountains
E. Display space - movie screen/access to microcomputer
F. Provide light control facilities (ie., dimmer switches and blackout drapes for audiovisual media work)
G. Special consideration should be given to the H.V.A.C. system design to remove cold air from the floor during the heating season.
H. Acoustically treat to protect instructional areas from outside noises
I. Material combination of carpeting and resilient material
J. Movable student tables and chairs of appropriate height, easily joined or separated
K. Teacher's combination desk/table and chair
L. Large wall clock

403 GENERAL INSTRUCTIONAL AREAS - PRIMARY

403.01 Size

Base preliminary determination of area upon the allotment of 28 to 30 square feet per child. To accurately determine the area needed, trial layouts should be made using scaled templates representing furniture and equipment on scaled drawings of floor and wall elevations.

400 EARLY CHILDHOOD/PRIMARY EDUCATION (K-4)

References:
2. G - 5

All schools housing early childhood programs contain general purpose instructional areas, specialized instructional spaces, auxiliary spaces, safety facilities and service facilities. The school is carefully planned and is large enough to maintain reasonable efficiency. Available technology is incorporated into environmental controls to provide a comfortable environment which facilitates the educational program. Where design considerations permit, the facility will be constructed in a manner that utilizes maximum natural light.

Early Childhood education is the beginning of education in West Virginia public schools. The kindergarten and transitional kindergarten stages provide developmental activities designed to stimulate the intellectual, physical/motor and social/emotional development of the child and begin the process of basic skills mastery. The educational program in grades K-4 reinforces the developmental activities and continues to enhance the mastery of the skills of reading; the basic communication skills of listening, speaking and writing; mathematics; social studies; physical and motor development; health/safety education; science education; and creative arts education.

400.01 Size of Centers

Early childhood/primary school centers should be organized for educational programs and administrative purposes according to the following enrollments.

A. Schools housing grades K through 4 should have a minimum of 110 square feet per pupil unless factors such as enrollment or architectural design permit otherwise as determined by the state superintendent of schools. Regardless of school size, the teacher-pupil ratio should not exceed 25 pupils per teacher for regular instructional spaces.

B. Special class enrollments (such as special and early childhood education) must be considered in addition to the above figures.

C. Centers shall be planned for approximately ~~180~~ 240 students per center. Smaller centers require approval from the West Virginia Board of Education. SBA funding will not be considered for centers with less than 85% utilization of this figure. (See 100.016)

401 ESSENTIAL PHYSICAL AND SERVICE FACILITIES

401.01

Certain physical and service facilities such as a multipurpose room, dining, assembly and music areas are provided in larger elementary school centers. Similar facilities, modified in size and/or combined use, are provided in smaller elementary centers.

Table 2 indicates the facilities considered essential to the implementation of high quality early childhood/primary education as outlined in the Master Plan, State Board Policy 2510 and the Criteria of Excellence. Consideration should be given to changing various learning spaces and activity areas through the use of folding or movable walls.

TABLE 2

PHYSICAL AND SERVICE FACILITIES CONSIDERED ESSENTIAL
FOR VARIOUS SIZED EARLY CHILDHOOD/PRIMARY EDUCATION CENTERS

Enrollment			Physical Facility
~~180~~ 210	~~360~~ 420	~~540~~ 630	
			Areas for:
5	5	5	A. Early Childhood Education
1	1	1	B. Primary
1	1	1	C. Outdoor Activities
			Instructional Spaces (Special)
5	5	5	A. Corrective/Remedial
5	5	5	B. Exceptional Children
			Specialized Areas
2	2	3	A. Assembly Room
2	2	1	B. Physical Education
2	1	1	C. A general music area and storage space
2	1	1	1. Soundproof instrumental area
1	1	1	2. Music equipment and material storage
2	1	1	3. Practice room
2	1	1	4. Instructor's office
			D. Cafeteria
2	2	3	1. Multipurpose/Dining
1	1	1	2. Food Preparation
1	1	1	3. Manager's office
1	1	1	4. Serving
1	1	1	5. Storage and disposal
1	1	1	6. Employee comfort
			E. Administrative
1	1	1	1. Principal's office
1	1	1	2. Reception Room
4	4	4	3. Teacher's Work Room
1	1	1	4. Health Unit
1	1	1	5. Conference/special instruction room
1	1	1	6. Storage
1	1	1	7. Staff Lounge and toilets
1	1	1	8. Guidance Unit

403.02 Design Capacity - 25 Pupils

403.03 Location

A. Acoustically treat to protect instructional spaces from the outside noise
B. Convenient access to the out-of-doors, particularly to recreational and physical education areas
C. If the building is a multiple-story structure, the first grade shall be assigned to the ground level floor

403.04 Activities

General learning areas may support a variety of activities including individual study and work, group interaction, lectures, reading, writing, demonstration and movement. These spaces will accommodate a variety of audiovisual and teaching equipment for both group and individual use.

403.05 Equipment Space and Facilities

Ample space, movable furniture and equipment and well-designed storage areas are essential.

A. Chalkboards, bulletin boards and other display areas - as much as possible, a minimum two-thirds of available wall space
    1. Chalkboards and bulletin boards should have map rails installed above
    2. The bottom of the display area should be at the eye level of the student when seated
B. Pupil wardrobe
C. Storage space (may be separate room)
    1. Open and closed adjustable shelving of various heights and depths for a variety of sizes of construction paper, charts and large format books - 30 linear feet of each
    2. Storage for teacher's personal belongings
    3. Filing space for instructional material and supplies equivalent to four drawer, legal size file cabinets
D. Work space - two square feet per child with shelving beneath - sink equipped with mud trap, hot and cold water
E. Teacher's combination desk/table and chair
F. Provisions for microcomputer work station
G. Conference-type table and chairs
H. Desks and chairs, or combination chair-desks
I. Desirable equipment
    1. Corridor display cabinet for pupils' work
    2. Rack for storage of periodicals pertaining to subject matter being taught
    3. All major types of audiovisual equipment should be readily available within classroom or the nearby media center
J. Adequate provision for controlling the light level in instructional areas is essential. (For efficient use of projection-type materials, the light in the room, particularly in the area of the projection surface, should not exceed one-tenth foot candle.)

K. Duplex service receptacles should be installed on all walls of the instructional space for the use of instructional equipment. Sufficient branch electrical circuits service should be in each room. Conduits should be provided to permit installations of computer terminals, television and other electronic instructional devices. System's conduits should be at least one-and-one-half inches in diameter in order to provide for installation of television and other teaching devices as indicated above.

L. A projection surface should be permanently installed in each instructional area with provision for eliminating keystoning.

M. Use of audio devices mandates acoustical treatment of walls, ceilings and floors in instructional areas and media centers, particularly in open-type classrooms where many activities are occurring simultaneously.

N. Combination of carpeting and resilient material

404 CORRECTIVE OR REMEDIAL EDUCATION

Specialized facilities in the form of small or specially equipped instructional areas are provided in each facility.

404.01 Size

Base preliminary determination of area upon the allotment of 28 to 30 square feet per child with 15 to 1 student/teacher ratio with aide.

404.02 Location

Adjacent to general instructional areas, acoustically treated to protect instructional spaces from outside noise.

404.03 Activities

Individuals and groups engaged in tutoring, adding stimulation, reducing stimulation and positive reinforcement of regular programs.

404.04 Equipment Space and Facilities

Reference: Section 403.05

405 MULTIPURPOSE ROOM

A multipurpose room is to be included. It should be based upon the amount of time required for the separate program activities to be housed.

405.01 Size

Base preliminary determination of multipurpose room area on the allotment of six to eight square feet per pupil enrolled in the school. Allow 12 to 15 square feet per pupil for dining. Allow approximately 65 square feet per pupil for physical education with 25 pupils per session.

405.02 Design Capacity

To be determined by school plant specialists.

405.03 Activities

To be determined on the basis of the school's program. Consideration should be given to providing a clear height from 20 to 24 feet if the room is used for such activities as basketball.

405.04 Location

A. Removed from quiet areas of the building by location and/or acoustical treatment
B. Direct access to outdoor physical education or recreation areas
C. Convenient access to public parking areas
D. Direct access to service drive
E. If used for dining purposes, locate close to kitchen

405.05 Equipment Space and Facilities

405.051 Stage - Optional

A. Provide 500 square feet of permanent or portable stage area. Consideration should be given to staging "in the round".
B. Two entrances to the stage, one direct from the building corridor. Entrances to be double door size.
C. Stage location should be one which makes instructional spaces accessible for use as stage dressing rooms.
D. Proscenium opening should be approximately one-half the width of the body of the multipurpose room.
E. Stage curtains of fire resistant materials, portable or permanent acoustical paneling and cyclorama and film projection screens should be part of the stage equipment.
F. Lighting facilities with controlled illumination.
G. Five to ten grounded duplex electrical receptacles should be provided in the stage area.
H. Storage for electronic and stage equipment.
I. Every stage equipped with rigging for movable theater-type scenery and every enclosed platform larger than 500 square feet in area shall have a system of automatic sprinklers in accordance with the state fire code.

405.052 Chair and Table Storage

A. Area as needed for storage of tables and chairs used for dining purposes
B. Provision of ample space to accommodate assembly chairs stored on trucks

405.053 Equipment Storage

A. Approximately 200 square feet with convenient access to the outdoor physical education area and direct access to multipurpose area
B. Provide double doors with flush threshold
C. Shelving and cabinets for storage of miscellaneous types of physical education and other equipment

405.054 Public Toilets

A. If pupil toilets are not conveniently accessible for public use, two toilet rooms of approximately 50 square feet each should be provided.
B. Toilets must conform to Chapter 18, Article 10F of the Code of West Virginia, which makes provisions for the physically handicapped.

406 FOOD SERVICE FACILITIES

Reference: Chapter 3, Section 302

407 ADMINISTRATIVE AND SERVICE FACILITIES

Reference: Chapter 3, Section 301

408 CUSTODIAL AND ENGINEERING ROOMS

Reference: Chapter 12

409 FACILITIES FOR EXCEPTIONAL STUDENTS

All schools having education programs for exceptional children shall provide adequate space designed to facilitate mainstreaming and equal access for all children and teachers. All facilities for special education are contained within the building. Facilities are designed to assist students to function safely with as much mobility as possible and are accessible to handicapped students. Facilities which house self-contained classes or other specialized facilities required for all exceptionalities are designed, furnished, equipped and maintained to facilitate the program requirements set forth in the individualized education program. See Chapter 7, Exceptional Student Instructional Areas, to determine which programs can best be provided in specialized facilities.

410 ART ROOMS

~~Every early childhood primary education facility should have an art room, meeting the following specifications.~~

410.01

Space allotment of 45 to 50 square feet per child with movable tables and chairs. Table dimensions no less than 36" x 60" for each four children. Art room should be located on the ground floor.

410.02 Equipment Space and Facilities

A. ~~No less than two~~ One deep sinks, two recommended, ~~each~~ with extra large drain, clean-out trap, and long drainage top - stainless steel recommended
B. Uncarpeted floor of concrete, tile, linoleum or other material not easily damaged by paint and clay
C. Counter space equivalent to the length of at least one wall

D. Closed-in storage shelves under counter - six or more drawers of built-in or movable storage space for flat pictures, at least 20 inches x 40 inches - storage cabinets and/or display boards on wall above counter
E. Adjacent storage room with shelves for art supplies - ~~no less than~~ space allotment of 250 to 350 square feet
F. At least one blackboard, movable or stationary
G. Bulletin boards - ~~no less than~~ 30 linear feet recommended . Movable display panels are also recommended. (Recommended for hallways and general areas: glass enclosed display space and movable display cabinets.)
H. Electrical outlets, 12 or more, located conveniently to working area
I. Audiovisual facilities may be separate, or combined with art room. These require blackout curtains and projection facilities.
J. Ceilings should be equipped with facilities for hanging mobiles.
K. Art appreciation corner with facilities for rotating display of two and three-dimensional objects and related library materials. Recessed wall-display cabinets are desirable, but not essential.
L. Mechanical ventilation systems are utilized in the art rooms to handle fumes, dust, odors and gases from turpentine, lacquer thinners, acids, toxic markers and clays. Special areas such as kiln rooms, dark rooms, pug mills, burnout kilns and acid areas require additional specific ventilation.
M. Provision for ceramic kiln.

410.03 Location - Ground Floor Location

410.04
Art facilities for small schools which have no special art room must include storage space for consumable art supplies, materials and equipment and an arts and crafts corner.

410.041 Arts and Crafts Space
A. At least one sink, preferably deep, with long drainboard, large drains and cleanout trap - stainless steel recommended
B. Built-in counter with formica top and closed-in storage shelves beneath - at least 8 feet in length. This may double as work space or drying area for unfinished work.
C. Display board or bulletin board, 12 linear feet or more
D. Uncarpeted floor area of tile, linoleum or other material not easily damaged by paint and clay
E. Storage for art supplies in closet, case or small storage room
F. At least two electrical outlets, adjacent to work area

410.042 Art Appreciation Corner
Equipped with glassed-in display case with shelves for crafts; and wall space for displaying two-dimensional work. Should also accommodate a section for library materials in the form of built-in shelves or portable unit.

411 MEDIA CENTERS

Reference: Chapter 3

412 MUSIC FACILITIES

Physical and spatial requirements for music education obviously exceed the capacity of the conventional classroom. Spaces for individual and group vocal and instrumental instruction and rehearsal are necessary. The size, quality and number of these spaces will be determined by the enrollment and the educational level of the school, the scope of the music program and the degree of encouragement offered music education by the administration and the community.

A good location for the music room is in a wing of the building close to the stage or multipurpose room. Physical isolation should be sought to reduce the transmission of sound to other areas of the building. Practice rooms may be separated acoustically from the rehearsal room by placing storage rooms or wall having dead air space between them. It is important that the facility be arranged for supervision of all practice and storage rooms. Also, the temperature and humidity of instrument storage rooms must be maintained at acceptable levels.

412.01
This facility shall be large enough to accommodate physical movement and daily use of "classroom/general music" instruments for teaching general music and a facility for elementary instrumental music class instruction.

412.011 Size
400 cubic feet per pupil; ceiling 14 to 16 feet high. Allow space for ~~maximum of~~ design capacity of 25 ~~20~~ students.

412.012 Location
A. Direct access to instrumental storage, practice room and storage rooms
B. Isolated area of building

412.013 Activities
Instruction in instrumental and classroom/general music.

412.014 Equipment
A. Stereo sound reproduction and recording equipment
B. Piano and bench
C. Classroom instruments
D. Chalkboard, 30 linear feet
E. Folding chairs
F. Music stands
G. Filing cabinets - legal size

412.02 Office Space for Planning or Studio Teaching

412.021 Size
250 to 350 square feet - (8 to 12 students).

412.022 Design Capacity
Accommodate small group.

412.023 Location
Convenient to music room.

412.024 Equipment
A. Desk and chair
B. Filing facilities
C. Chalkboard
D. Work table and chairs
E. Storage for tapes and records

412.03 Storage Space for Instruments, Equipment and Music

412.031 Size
Approximately 150 square feet. Secure room with shelving to accommodate stringed instruments, classroom instruments and legal size filing cabinets.

413 MICROCOMPUTER LAB

413.01 Size - 40 Square Feet Per Pupil

413.02 Design Capacity - 20 Pupils

413.03 Location
Provide sufficient labs for use by each curriculum area. Core group for smaller facilities and a minimum of one lab for each curriculum area in larger facilities.

413.04 Activities
Active use of microcomputer applications related to the curriculum.

413.05 Equipment Space and Facilities
A. 20 - 30 inches x 48 inches microcomputer work stations
B. 1 - 30 inches x 60 inches host station
C. 4 - time-sharing printer stations
D. Storage cabinets for disks and paper
E. Teacher's combination desk-table and chair
F. Due to the rapid advancement in computer technology, current information must be obtained before design work is completed.

500 MIDDLE CHILDHOOD/JUNIOR HIGH EDUCATION PROGRAMS 5-8

Reference:
2. G-6

Middle childhood education builds upon the results of early childhood education and provides educational opportunities to help students extend competence in basic skills; develop self-understanding, self-knowledge, independence and interdependence; and engage in exploratory experiences in academic areas and career education. In addition, enrichment studies are provided for a broad range of potential growth options. Middle childhood education serves learners during the 10-14 years age range. In this age range, students have rapid changes in physical growth and social and intellectual development and maintain or establish new values, attitudes and beliefs which influence their decisions to remain or drop out of school. The middle childhood education program emphasizes extension of basic skills, broadening of academic skills to assist students in making the transition from childhood dependence to adult independence and opportunities for exploration.

500.01 Size Of Centers

An educational facility should be large enough to take advantage of reasonable economies of operation, comfortably accommodate the inhabitants and support the educational program. Other factors such as density of population, availability of sites and transportation ~~make it difficult to generalize about optimum size~~ should be considered in determining the size of facility.

A. All middle/junior high schools have a minimum allotment of 120 square feet per pupil, unless factors such as enrollment or architectural design permit otherwise as determined by the state Department of Education.
B. The size and type of facility will be determined by the number of students and the instructional program.
C. Centers (5-8 organizational pattern) shall be planned for a minimum of ~~240~~ 600 students (85% utilization). Smaller centers or combination K-8 centers require approval from the West Virginia Board of Education. SBA funding will not be considered for centers with less than 85% utilization of this figure. (See 100.016)

501 PLANNING PROCESS

501.01

Middle school programs and facilities to accommodate such programs are the result of careful, complete and creative planning.

501.02

Closely coordinated planning will include factors such as the school's role in the community, the characteristics of students, how students learn most effectively, the physically disabled and what constitutes the total coordinated program of learning in the

middle/junior high school. Consideration should be given to changing various learning spaces and activity areas through the use of folding or movable walls.

501.03
Educational specifications shall be prepared to include a careful computation of room, area and building capacity as required to offer programs of study as outlined in the Master Plan, State Board Policy 2510 and the Criteria of Excellence.

501.04
Departmentalization, specialization of instructional spaces, elective subjects and scheduling are factors to be considered in determining the number of teacher stations.
NOTE: The following formula considers only the number of pupils; none of the above are considered.

A. The number of teaching stations needed may be determined by applying the following formula to each subject area. (If general purpose instructional spaces are considered interchangeable for different subject areas, the calculation may be made for a group of subject areas.)

B. The basic formula:

$$\text{Number of Teaching Stations} = \frac{\text{Number of pupils enrolled in subject} \times \text{Number of periods per week in subject}}{\text{Desired average class size} \times \text{Number of periods per week each teaching station can be used.}}$$

501.05
The pupil capacity of a school building is affected by the educational program; it changes each time the program is modified. A more complete analysis of the operational capacity of proposed school buildings may be obtained by referring to:

A. Conrad, M.J., A Manual for Determining the Operating Capacity of Secondary Schools. Bureau of Educational Research and Service, Ohio State University.

B. Castaldi, Basil, The Castaldi Nomogram. The New England School Development Council.

501.06
In recent years, middle/junior high education has undergone considerable experimentation and change in four areas: School organization, curriculum design, teaching methods and school community relations. Included in these are:

A. Microcomputer network

B. The use of large group, small group and individual instruction

C. The use of programmed instruction with or without teaching machines

D. The use of television distance learning and related media

501.07
To aid in planning facilities to use the media center effectively, refer to Standards for School Media Programs, American Library Association of the National Educational Association, latest edition. (1201 Sixteenth Street, N.W., Washington, D.C. 20036).

502 GENERAL PURPOSE (ACADEMIC) CLASSROOMS OR INSTRUCTIONAL AREAS

Room should be designed to serve specific needs of language arts, foreign language, mathematics, social studies and certain other subject areas. They should also be designed to permit interchanged use as program needs demand.

502.01 Size

Base preliminary determination of area upon allotment of 28 to 30 square feet per pupil. For example: 700 to 750 square feet of floor area should be planned for 25 pupils in an instructional space. To more accurately determine the area, trial room layouts should be made using scaled templates representing furniture and equipment and scaled floor and wall elevation drawings.

502.02 ~~Maximum~~ Design Capacity - 25 Pupils

502.03 Location

A. Isolation from noisy areas of the building
B. Close proximity to the media center
C. Location which will permit easy expansion

502.04 Activities

Speaking; laboratory drills; lecture; group discussion; viewing slides, films and other projected materials; listening to recordings and broadcasts; writing or drawing on chalkboards, desk and/or tables; displaying pupils' work; storing instructional materials and supplies; demonstrations; and lab activities in mathematics, where stations with individual assignments are to be done with manipulative materials.

502.05 Equipment Space and Facilities

A. Chalkboards, bulletin boards and other display areas - a minimum of two-thirds available wall space
    1. Chalkboards and bulletin boards with map rails installed above
    2. Bottom of display area should be at eye level of student when seated
B. Pupil wardrobe
C. Storage
    1. Teacher's storage for personal belongings
    2. Storage for teaching aids and supplies
        a. Closed and open shelving
        b. Four-drawer filing space
D. Teacher's combination desk-table and chair

E. Conference-type table and chairs
F. Desks and chairs, or combination chair-desks
G. Desirable equipment
   1. Corridor display cabinet for pupils' work
   2. Rack for storage of periodicals pertaining to subject matter being taught
   3. All major types of audiovisual equipment should be readily available within classroom or the nearby media center.
H. Adequate provision for controlling the light level in instructional areas is essential. (For efficient use of projection-type materials, the light in the room, particularly in the area of the projection surface, should not exceed one-tenth foot candle.)
I. Duplex service receptacles should be installed on all walls of the instructional space for the use of instructional equipment. Sufficient branch electrical circuit service should be in each room. Conduits should be provided to permit future installations of computer terminals, television and other electronic instructional devices. System conduits should be at least one-and-one-half inches in diameter in order to provide for installation of television and other teaching devices as indicated above.
J. Where there are to be specialized facilities such as language labs, study carrels, micro-teaching and television, provision should be made for electrical service in the floor.
K. A projection surface should be permanently installed in each instructional area with provision for eliminating keystoning.
L. Use of audio devices mandates acoustical treatment of walls, ceilings and floors in instructional areas, media centers and other such areas, participially in open-type classrooms where many activities are occurring simultaneously.
M. Carpeting and/or resilient floor covering where appropriate.

503 CORRECTIVE/REMEDIAL INSTRUCTION <u>(OPTIONAL)</u>

Specialized facilities in the form of small or specially equipped instructional areas are provided in each facility. Facilities should be designed to serve corrective/remedial needs of language arts, foreign language, mathematics, social studies and certain other subject areas.

503.01 Size

Base preliminary determination of area upon an allotment of <u>28</u> to 30 square feet per pupil. For example: <u>420</u> to 450 square feet of floor area should be planned for 15 pupils in an instructional space. To more accurately determine the area, trial room layouts should be made using scaled templates representing furniture and equipment and scaled floor and wall elevation drawings.

503.02 ~~Maximum~~ <u>Design</u> Capacity - 15 Pupils

503.03 Location

A. Isolation from noisy areas of the building
B. Close proximity to the media center
C. Location which will permit easy expansion

503.04 Activities

Speaking; laboratory drills; lecture; group discussion; viewing slides, films and other projected materials; listening to recordings and broadcasts; writing or drawing on chalkboards, desk and/or tables; displaying pupils' work; storing instructional materials and supplies; demonstrations; and lab activities where stations with individual assignments are to be done with manipulative materials.

503.05 Equipment Space and Facilities - See 502.05

504 ART FACILITIES

Art facilities should accommodate the studio and classroom activities of a full art program. Basic to all activities would be space allotment, natural and artificial light, movable furniture or furnishings, display space, several kinds of storage space, deep sinks with clean-out traps and adequate electrical outlets.

504.01 Size

Studio - ~~minimum of~~ approximately 1200 square feet or the equivalent, exclusive of storage. Provide one art room for every 150 pupils enrolled in art areas of study.

504.02 Capacity

Recommended class size for studio activities is 25.

504.03 Location - Pertinent Factors

A. Accessibility for consumable materials; ground floor location preferred
B. Need for uncarpeted floor in studio areas. Floors should be of concrete, tile, linoleum or other material not easily damaged by paint.
C. Good lighting, both natural and artificial. Natural light is important for many activities and essential for painting.
D. Space should contain, or be accessible to facilities for the use of slides and film - blackout curtains, projection facilities and chairs equipped with tablet arms.
E. Power tools and equipment may, subject to local policy, be borrowed from or shared with Industrial Arts area.
F. Provide power ventilation for removal of fumes, dust, odors and gases from turpentine, lacquer thinners, acids and toxic markers.

504.04 Activities - Discussion, Studio, Lecture, Combination

Basic - drawing, painting, sculpturing, ceramics, design, art history and appreciation and crafts.

504.05 Equipment Space and Facilities

A. Sink and work-counter units
   1. Hot and cold water with mixing faucets
   2. No less than two deep sinks of stainless steel with long drainboards
   3. Large drains and clean-out traps
   4. Long counter for mixing paints and other activities
   5. Storage for mixing pans, water jar and brushes (under sink and counter)

B. Special storage for:
   1. Drawing boards
   2. Shelves for storage of flat work, a minimum of 28" x 40" (May be built in or movable)
   3. Prints (similar to above)
   4. Audiovisual materials and special books
   5. Tools used in construction
   6. Unfinished work

C. Chalkboard - at least six linear feet

D. Bulletin boards - all available wall space - at least one full wall

E. Display facilities for projects, glass covered in studio and hall

F. Work benches, tilt-top tables and easels as selected by instructors. Movable to permit flexible grouping. Accommodations for:
   1. Teachers' desk and storage area
   2. Provision for hanging mobiles from ceiling

G. Doorway opening at least 42 inches wide

H. Duplex outlets along wall spaces and above work counter - no less than 12

I. All electric and gas kilns are hooded and mechanically ventilated when in use

J. A ceramic kiln is co-located with each general art classroom

504.06 Storage Room

~~At least~~ 300 to 400 square feet ~~for each full studio~~, to include shelves for paper, paints and supplies; also for unfinished work which cannot be stacked, such as wet paints, prints and ceramics. Special shelf in studio or storage room for unfinished constructions, at least 20 linear feet.

505 BUSINESS EDUCATION

505.01 All-Purpose Business Education Room

This room would be needed for a small school (up to 150 business students per day) with only one business teacher. Therefore, it is necessary to provide adequate space to store, maintain and use a vast amount of equipment and supplies. The room consists of the following.

A. Equipment-oriented instructional lab area for courses such as ~~Integrated Computing~~ Business Computer Applications, Advanced Business Computer Applications, Keyboarding and Office Technology

B. Multipurpose classroom instructional area for courses such as Accounting, Business Principles & Management, ~~Shorthand~~ Shorthand/Abbreviated Writing and Business Math
C. Storage for teaching materials, supplies and student references
D. Teacher's desk and demonstration center

~~The room should be carpeted.~~ A five foot electrical grid system with flush floor outlet should be installed. A lavatory with hot and cold water should also be provided. Because of the chemicals contained in some of the correction materials, carbon packs, toners, and reprographic equipment, students, and instructors need to have immediate access to a lavatory for their health and safety.

505.011 Size
1200 to 1400 square feet (60 to 70 square feet per student).

505.012 Design Capacity - 25 Students Per Session

505.013 Location
In the central core of the building.

505.014 Activities
Lecture or carry on small group or class discussions; view slides, films and other projected materials; conferences of small groups of pupils; display pupil projects or work; store partially completed pupil projects; store instructional supplies; listen to recordings or broadcasts; view telecasts; write and transcribe ~~stenographic~~ notes; operate keyboarding equipment/microcomputers and other business equipment.

505.015 Equipment Space and Facilities
A. Tackboard - 10 linear feet
B. Electrical convenience outlets on each wall
C. Calculators
D. Storage (lockable) for instructional supplies
E. Storage for instructor's personal belongings
F. Lockable, legal size file drawers - 16
G. Closed bookshelving - 10 to 12 linear feet
H. Microcomputers/modem and access to network
I. Plain paper ~~Copier~~
J. Electronic typewriters or microcomputers
K. Overhead projector/screen
L. Dictation/transcription equipment
M. Letter quality and dot matrix printers
N. Chalkboard - 40 to 42 linear feet
O. VCR and monitor ~~Refer to the "Business Education Program Guide" for a list of additional equipment.~~
P. Provisions to darken room
Q. Adjustable classroom furniture (desks and chairs)
R. Instructor's desk and chair

506 CONSUMER/HOMEMAKING

The middle childhood consumer and homemaking area of study is designed to be exploratory in nature, broad in scope and integrated and/or coordinated with other subject matter areas. This is achieved by utilizing the Basic Attitudes, Skills and Experiences (BASE) curriculum which emphasizinges the basics and their practical application to real-life experiences by exploring the areas of: personal development/family relations; management; nutrition and foods; consumer education; the world of work; and clothing and textiles. Each area reinforces the use of basic skills, the development of self-knowledge, self-understanding and decision making skills, the interrelatedness of independence and interdependence, and the use of exploratory studies as an instructional method.

506.01 Consumer & Homemaking Instructional Size & Space
Ideally, the middle school home economics facility consists of one large multipurpose room with adequate space to carry out a comprehensive curriculum. However, if more than one teacher is currently employed or if it is anticipated that in the near future more than one teacher will be needed, sufficient rooms are included in the original plan for meeting needs. Regardless of the number of rooms in a facility, each room is used for teaching more than one area of instruction.

Description of Type of Facility	Space Square Feet	Design Capacity ~~Number of Students~~
One all purpose room, designed for a one teacher department, consisting of:	95-100 square feet per student	25
a. Space and equipment for teaching clothing and textiles, nutrition and foods, personal development/family relations, world of work, management and consumer education. Includes:		
1. Foods Laboratory -	~~45~~ 40 to 50 square feet per student ~~(minimum 900 total square feet)~~. See Section 805.021 for specialized equipment and facilities requirements.	
2. Clothing Laboratory/Multipurpose Room - 50 square feet per student (minimum 1000 total square feet). See Section 805.04 and 805.05 for specialized equipment and facilities requirements. Also, includes space and equipment for:		
A. Storage of teaching materials, supplies and student references		

B. Teaching center
C. Display case

3. Classroom (Optional)

TOTAL SQUARE FEET		1900-2500
Two multipurpose rooms, designed for a two or more teacher department, with:		
Room 1 consisting of:	~~55-60~~	
a. Space and equipment for teaching foods and other instructional areas listed above	40-50 square feet per student	25
b. Storage for teaching materials, student projects, supplies and references		
c. Teaching center		
Room 2 consisting of:	~~55-60~~	
a. Space and equipment for teaching clothing and other instructional areas listed above	40-50 square feet per student	25
b. Storage for teaching materials, student projects, supplies and references		
c. Teaching center		
Classroom	700-750	
Conference/office area	150-200	
Display Case		24
~~Per each additional teacher:~~		
~~a. Classroom~~		~~625-800~~
~~b. Conference office area~~		~~50~~
TOTAL SQUARE FEET	~~2374-3224 + 675-850~~ 2874-3474	

A peripheral arrangement with a minimum of fixed equipment or furnishings extending out into the room promotes flexibility in the use of space. Equipment is arranged in relation to point of use to prevent congestion. Five feet is allowed between tables for students to pull out chairs and be seated and to permit instructor supervision.

506.02 Design Capacity - 25 Students (Lab); 25 Students (Classroom)

506.03 Location

Facilities should be located on the ground floor, preferably near an outside entrance, for:

A. Convenient delivery of groceries and instructional materials
B. Convenient installation and removal of large equipment
C. Easy accessibility for physically handicapped persons
D. Easy accessibility for parents and other visitors
E. Convenient entry for adult students and other persons seeking help with home-related problems

In multi-teacher facilities, rooms adjacent to each other tend to unify the program by allowing for ease of communication, sharing of equipment and exchanging rooms for instruction. In schools with several rooms, rooms on both sides of the corridor make for a more compact facility than a row of rooms the length of the corridor. The home economics facilities may be placed near social studies instructional spaces, science laboratories and art centers to facilitate integration of subjects.

506.04 Activities

Viewing slides, films and other projected materials; class discussions; lectures; demonstrations; individual, small or large group activities such as vocational youth organization activities; selecting, planning, carrying out & evaluating varied student projects; preparation of teaching materials and planning of program activities.

506.05 Equipment Space and Facilities

A. Provisions are made for blinds, shades and/or draperies at the windows to control classroom light levels. For efficient use of projection-type materials, the light in the room should not exceed one-tenth foot candle.
B. Window sills are located 40" or higher above the floor when storage cabinets are to be installed along that wall.
C. Electrical needs
    1. A separate electric control panel for the facility is located in or adjacent to the home economics department.
    2. Sufficient grounded electrical outlets are located near the point of use and will accommodate use of many pieces of equipment at one time.
    3. Ample switches and outlets are provided on each wall in each room.
D. Plumbing needs
    1. Adequate and properly located plumbing connections are provided for the equipment.
    2. A continuous supply of hot and cold water is provided. A separate hot water heater and water softener may be needed.
E. Sufficient space provided for easy movement of students and instructor
F. Major floor area of each room free of heavy or permanently fixed equipment to allow for flexible room arrangement
G. Doors placed to prevent interference with traffic patterns
H. Chalkboards, bulletin boards and other display areas - a minimum two-thirds of available wall space - at least 8 linear feet of chalkboard and 15 square feet of bulletin board space per room
I. Projection surface permanently installed in each instructional area with provision for eliminating keystoning
J. Tables & chairs for seating of entire class - can be rearranged for small or large groups and for demonstrations as needed

K. Storage needs - Both general storage and storage within the instructional areas are provided. The two most commonly used types of storage arrangements are: (1) the separate room and (2) cabinets and/or open shelves within the classroom. Some advantages to the separate storeroom are: leaves more wall space within the classroom and frees floor space for flexible arrangement when items not in use are placed in the storeroom. A combination of the two types is desirable with a separate room for storage of large equipment which is not used frequently and cabinets in the classroom for student items, small equipment and frequently used teaching materials.
   1. Shelving is conveniently spaced and/or adjustable to fit the size and shape of equipment to be stored such as portable sewing machines, reference books, audiovisual equipment and small equipment items.
   2. Drawers are of a depth to serve the materials or equipment to be stored.
   3. Mobile base cabinets provide additional work space and allow for more flexibility in room arrangement.
   4. Heavy articles are stored at a carrying level.
   5. Movable trays or pullout sections are used instead of shelves to facilitate removing articles.
   6. Total amount of storage space is expanded by using items such as "lazy susan" shelves, divided drawers, vertical shelves and stairstep shelves.
   7. Closed storage space is provided for items that need to be protected, are not used frequently or may detract from the appearance of the room.
   8. Cabinets with locks are provided for storage of items such as electrical appliances, portable sewing machines, food and audiovisual equipment.
   9. Storage units are located near the department's entrance for temporary storage of students' books and personal belongings.
   10. Storage space is provided for cleaning supplies & equipment.

L. Teacher/conference area - may be located in a designated area of the all-purpose room or in a separate room. A separate room is desirable when there are two teachers and is essential for three or more teachers. If a separate center is necessary, it should be accessible from all rooms in the home economics facility. An additional shared conference area for several disciplines should be available in the middle school facility to accommodate inter-disciplinary planning needs.
   1. Teacher's desk and chair (1 each per teacher)
   2. Lockable storage for teachers' belongings
   3. Open and closed adjustable shelving - minimum 30 linear feet
   4. Four drawer file cabinet (1-2 per teacher)
   5. Electrical outlet by each teacher's desk

M. Carpeted area in the facility is optional

506.06 Nutrition and Foods Specialized Equipment and Facilities

A. Kitchen units arranged in different patterns (U-type, L-type, one wall, island, corridor) to simulate home conditions: four. One should be planned for demonstration purposes and include an adjustable overhead mirror. Unit kitchens are arranged for easy supervision by the teacher. Upper peninsular cabinets and range hoods that block the teacher's view are avoided.
   1. Each unit kitchen consists of: double sink, range, base and wall cabinets, tables, chairs and 10-12 linear feet of work surface, excluding sink and range.
   2. 24 to 30 inches of base cabinets is recommended at the left of each range and left and right of the sink; also allow space for mixing centers.
   3. The sink is located between the range and mixing centers in each unit.
   4. A waste disposal is included in one unit.
   5. 24 to 30 inches of counter work space is provided for each student working in a unit kitchen. Adequate storage for basic equipment and supplies is located in each kitchen unit with special equipment and food supplies located nearby.
   6. Tables and chairs are adjacent to the kitchens for serving purposes.
   7. Exhaust ducts and/or range hoods have fans to pull odors and fumes out of the room.

B. At least one 48 inches x 72 inches cabinet with adjustable shelves is needed for storing extra supplies, equipment and classroom materials.

C. A variety of cabinet and counter materials, range and refrigerator models, and fuels should be used.

D. A non-porous floor covering and finish for walls in unit kitchens should be used.

E. A minimum of three electrical outlets per kitchen unit is needed.

F. A refrigerator, with freezer compartment, accessible to kitchen units (24 to 36 inches of counter space is provided adjacent to the latch side of the refrigerator).

G. One portable or built-in dishwasher, optional.

H. One to two microwave ovens.

I. Fire extinguisher, blanket and first aid kit.

506.07 Laundry Area

A. Automatic washer and dryer (gas dryer must be vented to outside)

B. 36 inches of counter space

C. Base and wall cabinet for storage

D. Located in a space which allows for class demonstrations

506.08 Textiles and Clothing Area

A. Adequately planned to allow use as a multipurpose area for the instruction of other ~~curriculum~~ home economics content

B. Multipurpose tables - 28 inches x 42 inches x 60 inches - minimum of 5 feet between tables
C. Multipurpose chairs (1 per student)
D. One sewing machine per three students. These may be a combination of cabinet-type and portable, which may be stored when not in use.
   1. Each sewing machine and chair/stool provides a minimum of three feet for pull out space.
   2. The facility is planned so that sewing machines can be stored when not in use to free space for multiple uses.
   3. A grounded electrical outlet is available for each machine.
E. Pressing areas - one for each 10 students. These include:
   1. Ironing boards
   2. Steam irons
   3. Grounded electrical outlet in each pressing area
F. Full length, triple mirror, optional
G. Lockable storage
   1. Cabinets for tote trays located near the entrance. One tote tray per student (4 3/4 inches x 12 inches x 18 inches). Top of upper tote tray should not be more than 60 inches from the floor.
   2. Cabinets or closet with adjustable rods for hanging garments. Allow 4 to 6 linear feet.
   3. Cabinets or walk-in closet for the storage of equipment, samples, portable machines and other materials and supplies.
H. Running water source provided
I. Refer to the consumer and homemaking program guide for a list of additional equipment.

507 FOREIGN LANGUAGE FACILITIES

Factors influencing the type of foreign language facility to be chosen include the type of laboratory facility desired. Laboratory facilities can be an electronic classroom, a language laboratory into which students are scheduled from classes held in general purpose classrooms or general purpose classrooms adapted for foreign language study.

507.01 Electronic Classroom

507.011 Size
35 square feet per pupil, exclusive of storage space.

507.012 Design Capacity
Allow five percent more stations - maximum class size 25.

507.013 Location
Near media center and isolated from noisy areas of building.

507.014 Equipment Space and Facilities:
A. Chalkboard - minimum of 20 linear feet; display and map rail above

B. Tackboard - minimum of 10 linear feet; display and map rail above
C. Storage
    1. Teacher's storage for personal belongings
    2. Closed and open shelving - minimum of 24 linear feet of each
    3. Tape racks and storage cabinet
    4. Record racks and storage cabinet
D. Teacher's combination console-desk and chair
E. Conference-type table and chairs
F. Student seating
    1. Stationary tables wired to reproduce sound from console and movable chairs
    2. Overhead wiring on droppable units to reproduce sound from console and combination chair-desks (This type installation needs fewer square feet per pupil than the stationary tables.)
G. Duplex electrical outlets on all feasible walls
H. Bookshelving - minimum of 20 linear feet
I. Provision for darkening room
J. Microphones, one per station
K. Headsets, one per station
L. Carpeting, desirable
M. Projection surface
N. Jack and plug to place sound track from 16 mm projector into classroom sound systems, desirable

507.02 Language Laboratory

507.021 Size
35 square feet per pupil, exclusive of storage space.

507.022 Design Capacity
Allow five percent more stations - maximum class size 25.

507.023 Location
In center of, or adjacent to, foreign language classrooms.

507.024 Activities
Language laboratory drill and recording.

507.025 Equipment Space and Facilities
A. Chalkboard - minimum of 10 linear feet
B. Tackboard - minimum of 10 linear feet
C. Storage
    1. Four-drawer filing space
    2. Tape storage space
    3. Record storage space
    4. Lockable storage spaces for any detachable equipment, such as headset and microphones
D. Teacher's combination console-desk and chair
E. Stationary booths and movable chairs for students
F. Duplex electrical outlets on all walls
G. Headsets, one per station

H. Microphones, one per station
I. Provision for darkening rooms
J. Carpeting, optional
K. See bibliographical references in 408.15 M for information about selecting laboratory equipment.
L. Projection surface

507.03 Teacher Work Area

507.031 Size
Area as needed, ~~minimum~~ approximately 250 square feet.

507.032 Design Capacity
Two instructors and several pupils.

507.033 Location
Opening into language laboratory or classrooms.

507.034 Activities
Preparation of tapes, duplication of tapes and records, preparation of instructional materials, small group activities, reading, grading.

507.035 Equipment Space and Facilities
A. One desk and chair per teacher
B. One legal size filing cabinet per teacher
C. Storage for instructors' personal belongings
D. Table or movable cart for audiovisual equipment
E. Conference table and chairs
F. Chalkboard and tackboard, minimum of five linear feet each
G. Storage for instructional aids
H. Soundproof area for recording tapes
I. Telephone, desirable
J. Projection surface

508 ~~INDUSTRIAL ARTS FACILITIES~~ TECHNOLOGY EDUCATION FACILITIES

Factors influencing the location include providing location for easy delivery of instructional supplies, equipment and materials, some of which are bulky and heavy; design of laboratory to permit some change in individual room areas as activities are developed; and location which permits isolation from the remainder of the building. Since technology education programs differ from industrial arts programs, the assistance of specialists should be secured to adequately plan this suite. Technology education programs include instruction in the areas of communication, transportation, construction, and manufacturing. ~~located in industrial arts area which includes art facilities and home economics facilities; location to provide easy delivery of instructional supplies, equipment and materials, some of which are bulky and heavy; location in the area of the building which permits some change in individual room area as actual layouts for equipment are developed; and location which permits isolation from the remainder of the building.~~

508.01 ~~Multiple-Industrial-Arts~~ Technology Education Production Laboratory

508.011 Size

~~Determination-will-be-dependent-upon-instructional activities-in-various-industrial-arts-areas.--The-area should-be-equal-to-100-square-feet-per-pupil.~~ The area should range from 100 to 125 square feet per student, laid out to permit open areas for construction of large group projects.

508.012 Design Capacity - 20 ~~Pupils~~ Students

508.013 Location

A. Direct access from the building corridor
B. Convenient access to other rooms in the ~~industrial arts~~ technology education suite
C. Direct access to service drive
~~D. Direct access to auxiliary spaces~~

508.014 Activities

~~Layout,-measurement-and-cutting-of-general-construction pieces-and-shapes;-building-or-forming-various-objects; use-and-care-of-hand-tools;-setting-up-and-operating various-machines;-assembling-and-fastening-various-pieces; preparing-for-and-finishing-various-materials;-carrying-on certain-related-handicraft-activities.--Facilities-for instructional-space-activities,-including-use-of-all-types of-audiovisual-equipment,-is-a-necessary-part-of-the laboratory-shop-facility.~~ The laboratory facility will need to provide space for layout, measurement, cutting, forming and fabricating using a variety of materials (ie. wood, metal, plastics); a large open space for construction of group projects such as geodesic domes, space for using and caring for hand tools and a variety of machines; and space for finishing various materials. Facilities for instructional space and the use of all types of audiovisual equipment is necessary.

508.015 Equipment Space and Facilities

A. ~~Varies-with-industrial-arts-instruction~~ The major floor area should be free of heavy or permanently fixed equipment to allow for flexible room arrangement
B. Chalkboard and tackboard - ~~four-to-six~~ 8 linear feet minimum ~~each~~
C. ~~Station-work-benches-with-underneath-storage-lockers --four~~ A minimum of four work stations, with underneath storage
D. ~~Wall-mounted,-lockable-tool-panels-which-fold-open when-in-use~~ Maximum work counter and cabinet storage space
E. Wall mounted lockable tool panels, if a tool room is not available
F. Windows should be high enough to permit installation of equipment along outside walls

G. Provisions are made for blinds or shades to allow for showing of audiovisual projection materials ~~Floor or ceiling electrical grid system for 110 and 220 volt power to various machines with master control switch and emergency cut-offs~~

H. Ceiling electrical grid system for 110 volt power to machines with master switches and emergency cut-off buttons

I. Adequate electrical wall outlets for power equipment and tools

J. Facilities for removal of chips, dust and harmful fumes

K. Door to corridor, minimum 48 inches wide

L. ~~Overhead door to service drive, minimum 9' x 10'~~ Outside door to service drive - double external doors with a removable mullion

M. Fire extinguishers of such kinds and sizes as recommended by the state Fire Marshal

N. ~~Service available should include AC and DC outlets, compressed air, gas outlets, hot and cold water and sewer~~ Wash up area for personal cleanliness and preparation and cleaning of tools and supplies

O. Lighting should provide 75 foot candles throughout

P. ~~Floor surfaces should not be concrete except in these areas subject to hot materials~~ Refer to the "Technology Education Curriculum Guide" for specific equipment necessary

508.02 Technology Education Communication Laboratory/Classroom

508.021 Size
Determination of size depends upon the number of students and related activities, varying from 45 to 55 square feet per student.

508.022 Design Capacity - 20 Students

508.023 Location
Direct access to production laboratory to provide for easy supervision.

508.024 Activities
Classroom instruction, project planning, small group activities, and a dust-free environment for instruction and activities with equipment such as computers, robotics, electronics, and lasers.

508.025 Equipment Space and Facilities

A. Glass walls or windows in wall facing laboratory to provide for easy supervision

B. Chalkboard - 20 linear feet minimum
Tackboard - 10 linear feet

C. Maximum counter and cabinet storage space along walls (Some of this space may be used for computers. If so, height needs to be adjusted accordingly.)

D. Windows should be high enough to permit installation of counters along outside walls

E. Provisions are made for blinds or shades to allow for showing of audiovisual materials
F. Adequate electrical wall outlet strips for use of electronic equipment, computers and related peripherals
G. Reconfigurable tables and chairs for 20-25 students
H. Bookcase for reference and resource books; magazine rack
I. Wall mounted projection screen
J. Floors - tile or other resilient covering
Ceiling - acoustical-type finished ceiling
K. Air conditioning

508.03 Instructor's Office

508.031 Size
Varying from 100 to 150 square feet.

508.032 Location
Convenient or direct access to production laboratory and communication laboratory. (Could be part of communication classroom)

508.033 Equipment Space and Facilities
A. Teacher's desk and chair
B. One or two conference chairs
C. Storage
1. Two letter size, four-drawer file cabinets
2. Open and closed shelving for supplies and references, 20-30 linear feet
D. Minimum of two duplex outlets

508.04 Raw Material and Tool Storage
~~This space will depend upon industrial arts technology areas included in the program.~~

508.041 Size
Varying from ~~100~~ 150 to ~~300~~ 250 square feet.

508.042 Location
Direct access to production laboratory.
~~A. Direct access from multiple activities laboratory~~
~~B. Direct access to outside truck delivery~~

508.043 Activities
For storage of various types of stock, tools, and other supplies necessary in the technology classroom.

508.044 Equipment Space and Facilities
A. Wide access door
B. Storage racks for various types of stock. If stock includes ~~lumber~~ wood and metal, ~~materials~~ stock may be as large as 4 feet x 8 feet
C. ~~Cabinets for small items~~ Adjustable shelving and cabinets for small items and portable electric tools
D. Peg board for display of hand tools

508.05 Project Storage

~~This space will depend upon industrial arts technology areas included.~~

508.051 Size

Varying from ~~100 to 300~~ 75 to 200 square feet.

508.052 Location

Direct access to production laboratory.

~~A. Direct access from multiple activities laboratories~~

~~B. Provide for easy supervision~~

508.053 Activities

Limited to storage of student projects.

508.054 Equipment Space and Facilities

A. Provide maximum adjustable shelving 24 inches deep along walls

B. Provide free floor area for storage of large items

C. NOTE: This storage may be provided in the form of cabinetry in the laboratory. If so, adjust square footage of laboratory accordingly.

~~507.04 Instructor's Office~~

~~507.041 Size --- 125 Square Feet~~

~~507.042 Location~~

~~A. Direct access to laboratory and convenient access to other auxiliary areas~~

~~B. Provide for ease of supervision~~

~~507.043 Activities~~

~~Confer with individuals and small groups.~~

~~507.044 Equipment Space and Facilities~~

~~A. Chalkboard and tackboard with map and display rail above --- 10 linear feet each~~

~~B. Storage for instructional materials, equipment and supplies~~

~~1. Open shelving --- 10 linear feet~~

~~2. Filing space --- 8 drawers~~

~~C. Teacher's desk and chair~~

~~D. Glazed panel between this area and laboratory for ease of supervision~~

508.06 ~~Mechanical Drawing (Drafting) Room~~ Audiovisual Laboratory

508.061 Size

Varying from 100 to 200 square feet.

~~Determination of size depends upon the number of pupils to be housed and related activities. --- Minimum of 45 55 square feet per student. --- Varying from 75 to 200 square feet.~~

~~507.062 Capacity---20 Pupils Location~~

508.062 Location

Direct access to communication laboratory.

~~A. Direct access from building corridor~~

~~B. Convenient or direct access from other rooms in the industrial arts technology complex~~

508.063 Activities

~~Drawing, sketching, lettering, and using and caring for drawing instruments; reading drawings and blueprints; blueprinting; making tracings; designing projects for various media; viewing slides, films and other projected materials.~~ Developing film and photographic paper; enlarging pictures; demonstrating lasers, producing a variety of audiovisual materials such as mock radio and television segments.

508.064 Equipment Space and Facilities

~~A. Drafting tables with tilt tops~~

~~B. Adjustable stools~~

~~C. Blueprinting machine~~

~~D. Work counter with wet sink, with electricity and storage below---10 to 12 linear feet~~

~~E. Teacher's desk and chair~~

A. Safe light as well as regular overhead lighting

B. Maximum work counter space

C. Maximum cabinet storage; some must be light safe

D. Positive ventilation

E. Sink and hot and cold running water

F. Electrical outlets along counter

G. Lightproof and soundproof from exterior influences

H. Additional electrical outlets for equipment usage

509 MUSIC FACILITIES

Factors influencing the location of this complex include: isolation from quiet areas of the building; ease of isolating the area for use during and after school hours; inclusion in the general arts area with convenient access to the stage; and direct or convenient access to the out-of-doors. Location of facilities within the suite should provide ease of supervision of all areas. Acoustical treatment should provide proper sonic environment to prevent sound transmission to remainder of the building.

509.01 Music Studio

NOTE: Classroom/general music, choral and instrumental studios may be planned as separate or combined facilities. Assistance in design and planning may be obtained from the music specialist of the State Department of Education.

509.011 Size - ~~35~~ 30 to 40 Square Feet Per Pupil

509.012 ~~Minimum~~ Design Capacity - 25 Students

509.013 Location

A. Direct access to instrumental storage
B. Direct or convenient access to other rooms in the music suite
C. Isolated as much as possible from quiet areas of the building

509.014 Activities

Instruction in classroom/general music, choral and instrumental music; viewing slides, films and other projected materials; listening to recorded music; movements; demonstrations of various types of instruments; writing or drawing on chalkboard and display materials.

509.015 Equipment Space and Facilities

A. Chalkboard - 30 linear feet, maximum, on front wall of which at least eight linear feet is etched with staff lines
B. Tackboard - Eight to 10 linear feet, located near entrance
C. Storage for vocal and instrument accessories
   1. Wall cabinets for music folders
   2. Open shelving for books, tapes, cartridges and record albums, 12" deep and 12" clear height - 40 linear feet
D. Folding chairs with folding tablet arms
E. Music stands
F. Director's podium
G. Tape recorder
H. Conference/work table
I. Two or three legal size, four-drawer filing cabinets
J. Wide door with flush threshold for moving large instruments to and from the studio
K. Two or three microphone outlets for recording in the studio
L. Stereo sound reproducing system with a minimum capacity of 40 watts - 20 watts per channel
M. Piano and bench
N. Pupil wardrobes
O. Availability of audiovisual equipment
P. Instructor's desk

509.02 Practice Rooms <u>(Optional)</u>

509.021 Size - 50 to 60 Square Feet Each

509.022 <u>Design</u> Capacity - Two to Four Pupils

509.023 Location

A. Convenient access from other music rooms
B. Access to instrumental storage without passing through studio
C. Convenient access from building corridor
D. Permit ease of supervision

509.024 Activities - Vocal and Instrumental Practice

509.025 Equipment Space and Facilities
- A. Two or three chairs and music stands
- B. Glazed partition of insulating glass for ease of supervision
- C. Acoustical treatment
- D. Independent, forced ventilation

509.03 Instructor's Office and Library
May be separate rooms or combination.

509.031 Size
Area as needed - ~~minimum~~ approximately of 250 square feet.

509.032 Design Capacity - Two Instructors and Six Pupils

509.033 Location
- A. Direct or convenient access to other music rooms
- B. Permit ease of supervision of studio and auxiliary rooms

509.034 Equipment Space and Facilities
- A. Instructor's desk and chair
- B. Four-drawer, legal size filing cabinets - three to four
- C. Storage for instructor's personal belongings
- D. Chalkboard and tackboard - six to eight linear feet each
- E. Conference table and chairs
- F. Storage for printed music, records, tapes and other instructional aids
  1. Open shelving - 15 to 20 linear feet
  2. Closed shelving - 30 to 40 linear feet
- G. Stereo sound reproducing equipment
- H. Music sorting rack

509.04 Instrument Storage

509.041 Size
Area as needed, ~~minimum~~ approximately 350 square feet.

509.042
Provide storage shelving necessary to accommodate instruments of various sizes.

509.043
Temperature and humidity are maintained at acceptable levels.

509.05 Robe and Uniform Storage
May be in portable wardrobes or separate rooms; ventilate as needed.

510 PHYSICAL EDUCATION

Factors influencing location include: Isolation from quiet areas of the building; direct access to the outside and provision for closing off the area for after-school use.
NOTE: Although less desirable, these facilities may be combined with assembly facilities.

510.01 Gymnasium (Physical Education Learning station)

510.011 Size

Determination of size is dependent upon physical education spaces to be located - 5400 square feet minimum. Floor area should be marked for various games.

510.012 Design Capacity

Two or more groups of 35 maximum pupils for physical education at 125 square feet/student.

510.013 Location

Convenient access from locker and shower rooms.

510.014 Activities

Include soccer, volleyball, basketball, football, softball, folk and square dance, gymnastics and other activities to meet the county curriculum. Recommend junior high basketball court (42' x 74') with some spectator seating. As a minimum provide a 24' ceiling height.

510.015 Equipment Space and Facilities

A. Provisions for using the learning center as two or more teaching stations may require canvas-net partition, folding door partition or mechanical folding walls.
B. Electrical outlets, record player, auxiliary lighting and cleaning equipment. Additional special outlets.
C. Forced ventilation
D. Small cases for display purposes - two to three
E. Tackboard - 12 to 16 linear feet
F. Public telephone
G. Drinking fountains (angle jet type)
H. Comfortable, low-wall seating
I. Wood gymnasium floor or equal

510.02 Gymnasium Equipment Storage Rooms

At least two in each station.

510.021 Size

Area as needed to store all equipment.

510.022 Location

Directly accessible to each teaching station when the station is divided into two.

510.023 Equipment Space and Facilities

A. Open storage area for items such as standards, vaulting horses, and horizontal bars
B. Enclosed storage cabinets for small items of physical education equipment
C. Double doors and flush threshold

510.03 General Storage

510.031 Size
Large enough to store all equipment.

510.032 Location
Direct or convenient access to learning station.

510.04 Boys' and Girls' Dressing-locker Rooms
NOTE: Recommend treatment of walls in these areas with epoxied materials to enhance maintenance. Also similar floor materials.

510.041 Size
Dependent upon manner in which gym clothing, street clothing and towel distribution are handled and the number of pupils expected to use this facility. ~~Minimum~~ 600-700 ~~750~~ square feet.

510.042 Location
A. Direct or convenient access to learning station
B. Direct access to outside physical education areas
C. Direct access to building corridor
D. Direct access to body-drying room
E. Permit ease of supervision

510.043 Activities
Dressing for physical education; storing street and gym clothes; informal talks with physical education instructors.

510.044 Equipment Space and Facilities
A. Street clothes lockers dispersed among gym clothes lockers
B. Space for additional lockers
C. Benches adjacent to or between rows of lockers
D. Small toilet room or partitioned area with water closet, lavatory and urinal
E. Forced ventilation
F. Mirrors to accommodate large numbers of pupils, shelving under each mirror and one full-length mirror
G. Tackboard near entrance - four to eight linear feet
H. Chalkboard - six linear feet
I. Drinking fountain

510.05 Boys' and Girls' Shower Rooms

510.051 Size
~~Minimum~~ Approximately 200 square feet.

510.052 Location
Access to locker-dressing room only through the body-drying room.

510.053 Equipment Space and Facilities
A. Gang showers - 12 to 16
B. Master volume and maximum temperature controls
C. Individual temperature and on-and-off controls
D. Bar soap trays
E. Forced ventilation
F. Easily cleanable construction
G. Floor drains away from normal traffic

H. Hose bibb for hot and cold water
I. Walls of non-absorbent material

NOTE: Individual dressing, drying and showering booths may be provided in girls' shower area. The number should not exceed three or four.

510.06 Boys' and Girls' Body-Drying Rooms

510.061 Size
~~Minimum~~ Approximately 100 square feet.

510.062 Location
A. Direct access from locker-dressing and shower rooms; entries to require maximum travel distance through drying room
B. Direct or convenient access from varsity locker-dressing room

510.063 Equipment Space and Facilities
A. Stubb towel holders
B. Floor drains away from center
C. Forced ventilation
D. Easily cleanable construction
E. Hose bibb for hot and cold water

510.07 Towel Room <u>(Optional)</u>

510.071 Size - 50 to 60 Square Feet

510.072 Location
A. Convenient to the locker-dressing and shower areas
B. Permit ease of supervision from locker-dressing area and instructor's office

510.073 Activities
Temporary storage, distribution and collection of towels.

510.074 Equipment Space and Facilities
A. Shelving to accommodate laundered towels
B. Movable laundry carts to accommodate used towels
C. Dutch-door for issuing and receiving towels

510.08 Laundry Area <u>(Optional)</u>

510.081 Size - <u>Approximately</u> 100 Square Feet

510.082 Location
Convenient to physical education and dressing rooms or areas.

510.083 Activities
Launder and dry gym clothing.

510.084 Equipment Space and Facilities
A. Washing machine

B. Vented dryer
C. Laundry tub
D. Separate work surface for handling both clean and soiled clothing and equipment

510.09 Instructors' Office (One For Each Instructor)

510.091 Size - ~~Minimum~~ Approximately 100 Square Feet

510.092 Location
A. Direct access to locker-dressing room
B. Direct or convenient access to gymnasium and outdoor physical education areas
C. Permit ease of supervision of locker-dressing rooms

510.093 Activities
Instructor's showering, toilet and dressing.

510.094 Equipment Space and Facilities
A. Toilet, lavatory and shower
B. Desk and chair
C. Conference chairs
D. Four-drawer filing cabinet
E. Storage of personal belongings
F. Book shelving - 10 to 15 linear feet
G. First aid equipment
H. Telephone

510.10 Training Area (Optional)

510.101 Size - 200 Square Feet

510.102 Location
Convenient to dressing, locker rooms.

510.103 Activities - Care of Body

510.104 Equipment Space and Facilities
A. Whirlpool hook-up
B. Rub-down table
C. Heat lamps
D. Supply cabinet

510.11 Equipment Storage Room

510.111 Size - Approximately 150 Square Feet

510.112 Location
Convenient to dressing, locker rooms.

510.113 Activities
Uniform and equipment storage.

511 SCIENCE FACILITIES

Items to be considered in locating these facilities are: Ease of access to outdoor areas; ease of delivery of supplies and materials; and isolation so odors cannot infiltrate the remainder of the building.

511.01 Biology and/or General Science ~~Instructional Space~~ Classroom and Laboratory

511.011 Size

Base preliminary determination of area on allotment of 40 to 50 square feet per pupil; minimum - 1000 square feet, exclusive of separate storage room.

511.012 Design Capacity - 25 Pupils

511.013 Location

A. Direct access to project preparation room

B. Direct or convenient access to storage and growing room. Growing room facilities may be included in Instructional Space Laboratory.

C. Convenient access to other rooms in the science suite.

511.014 Activities

Instruction and demonstrations; class-size and small group discussion; individual and small group experimentation; viewing slides, films and other projected materials; writing or drawing at tables and chalkboards; individual study and research; displaying pupil projects.

511.015 Equipment Space and Facilities

A. Chalkboard - 20 to 30 linear feet, chart and display rail above
   1. Minimum of 40 inches clear height
   2. Major portion on front wall

B. Tackboard - 10 to 12 linear feet, chart and display rail above

C. Work-counter - 40 to 50 linear feet, minimum, and must have pupil work space to accompany it
   1. Three to four acid-resistant sinks with hot and cold water
   2. Impervious work surface
   3. Gas and electricity
   4. Storage under work-counter
   5. Movable aquariums and terrariums

D. Closed shelving - 30 to 40 linear feet, 18 inches deep

E. Open shelving - 15 to 20 linear feet

F. Instructor's demonstration table including sink, hot and cold water, gas and electricity. Pupil work space two-and-one-half linear feet per pupil may be provided as equivalent pupil work space, which is not as restrictive as combination desk-chairs.

G. Two-pupil tables and chairs
H. Teacher's desk and chair
I. Facilities for darkening room
J. Fire extinguisher and blanket
K. Lavatory
L. Main shut-off valve located in a readily accessible location

511.02 Biology and/or General Science Storage
Shared storage areas recommended in multiple laboratory situations.

511.021 Size - ~~Minimum~~ Approximately 200 Square Feet

511.022 Location
A. Direct access from project preparation room
B. Direct or convenient access from instructional space laboratory and growing room

511.023 Equipment Space and Facilities
Maximum varied height and depth, adjustable shelving (150 linear feet minimum).

511.03
Project Preparation Room. (May be planned as combination with storage area.)

511.031 Size - ~~Minimum~~ Approximately 200 Square Feet

511.032 Design Capacity - Instructor and Six Pupils

511.033 Location
Direct access from instructional space laboratory and from building corridor.

511.034 Equipment Space and Facilities
A. Acid-resistant work surface with acid-resistant sink, hot and cold water, gas and electricity
B. File cabinet

511.04 Darkroom (Optional)

511.041 Size - ~~Minimum~~ Approximately 100 Square Feet

511.042 Design Capacity - Instructor and Four Pupils

511.043 Location
A. Direct access from instructional space laboratory
B. Convenient access to corridor without passage through instructional space laboratory

511.044 Equipment Space and Facilities
Laboratory work-counter - acid-resistant sink, large enough to accommodate three pans.

512 LIBRARY/LEARNING RESOURCE CENTER OR MEDIA CENTER

Reference: Chapter 3

513 EXCEPTIONAL STUDENT INSTRUCTIONAL AREAS

See Section 700

514 MICROCOMPUTER LABS

514.01 Size - 35 to 40 Square Feet Per Pupil

514.02 Design Capacity - 20 Pupils

514.03 Location
Provide sufficient labs for use by each curriculum area. Core group for smaller facilities and a minimum one lab for each curriculum area in larger facilities.

514.04 Activities
Active use of microcomputer applications related to the curriculum.

514.05 Equipment Space and Facilities
A. 20 - 30" x 48" microcomputer work stations
B. 1 - 30" x 60" host station
C. 4 - time sharing printer stations
D. Storage cabinets for disks, paper and other supplies
E. Teacher's combination desk-table and chair
F. Due to the rapid advancement in computer technology, current information must be obtained before design work is completed.

515 ELECTRONIC TECHNOLOGY LABORATORY (OPTIONAL)

Whenever feasible, the use of technology in education will be integrated within the individual classroom, but there is a need for a demonstration/lecture laboratory to house equipment that may be utilized by all teachers and students. This laboratory will employ present day and futuristic applications of educational technology by exploring the areas of: computer controlled capability with use of modern, CD-ROM, laser disc, monitors and/or data projector; distance learning and teleconferences allowing interactive experiences; and authoring or production capabilities to develop programs and courseware for in-house applications. Ideally, the middle school instructional technology facility consists of one large room with a platform area for teacher demonstration/lecture and adjacent control room. This facility may also be used for large group instruction.

515.01 Electronic Technology Complex

515.011 Size - Approximately 2000 Square Feet

515.012 Design Capacity - 75 Pupils

515.013 Location
Near media center and isolated from noisy areas of building.

515.014 Equipment Space and Facilities
- A. Dustless marking boards, approximately 10 linear feet
- B. Tackboard, approximately 10 linear feet
- C. Storage
  1. Teachers' storage for personal belongings
  2. Closed and open shelving, approximately 50 linear feet of each
  3. Tape rack and storage cabinet
  4. Disc rack and storage cabinet
- D. Platform area minimum 8" raised flooring for wiring
- E. Adequate conduit throughout room to distribution panel
- F. Adequate electrical outlets
- G. Teacher station/console with control panel and phone line
- H. Appropriate acoustical treatment depending on use of lab
- I. Wall mounted monitors
- J. Ceiling mounted data projector
- K. Microphones - one per student station
- L. Color correct lighting for video production and viewing
- M. Adjustable lighting levels
- N. Pull-down screen in platform area
- O. On/off air sign at doors
- P. Student seating - stationary tables and movable chairs
- Q. Carpeting, desirable
- R. Broadcast quality audio
- S. Satellite receiving equipment, microwave, and/or fiber optics
- T. Computer equipment

515.015 Control Room
- A. Size - approximately 150 square feet
- B. Downlinking capability
- C. Uplinking capability (when justified)
- D. Broadcast capability

515.016 Activities
Telecomputing concepts to access bulletin boards/data bases, CD-ROM and laser disc interactive applications, usage of electronic music keyboards, microscopes, videocameras, etc., teleconference allowing live interactive classes. A video production engineer should be consulted when laboratories are designed for video production.

516 ADMINISTRATIVE AND SERVICE FACILITIES

Reference: Chapter 3

517 FOOD SERVICE FACILITIES

Reference: Chapter 3

518 CUSTODIAL AND ENGINEERING ROOMS

Reference: Chapter 12

519 STAGE

Locate for use in relation to the gymnasium or dining area for spectator seating. Must have convenient access to language arts and music instructional space and physical education dressing-locker rooms to permit use as stage dressing rooms.

A. Provide at least 800 square feet of permanent or portable stage area. Consideration should be given to staging "in the round".
B. Two entrances to the stage, one direct from the building corridor. Entrances to be double door size.
C. Stage location should be one which makes instructional spaces accessible for use as stage dressing rooms.
D. Proscenium opening should be approximately one-half the width of the body of the multipurpose room.
E. Stage curtains of fire resistant materials, portable or permanent acoustical paneling, cyclorama and film projection screens should be part of the stage equipment.
F. Lighting facilities with controlled illumination.
G. Five to ten grounded duplex electrical receptacles should be provided in the stage area.
H. Storage for electronic and stage equipment.
I. Every stage equipped with rigging for movable theater-type scenery and every enclosed platform larger than 500 square feet in area shall have a system of automatic sprinklers in accordance with the state fire code.

600 ADOLESCENT/HIGH SCHOOL EDUCATION 9-12

600.01 Size of Centers
An educational facility should be large enough to take advantage of reasonable economies of operation, comfortably accommodate the inhabitants and support the educational program. Other factors such as density of population, availability of sites and transportation make it difficult to generalize about optimum size.

600.02
Allow 130 square feet per student, unless factors such as enrollment or architectural design permit otherwise as determined by the State Superintendent of Schools.

600.03
The size and type of facility will be determined by the number of students and the instructional program.

600.04
Centers shall be planned for a minimum of ~~500~~ 800 students. Smaller centers require approval from the West Virginia Board of Education. (See section 100.016)

601 PLANNING PROCESS

References:
2. G - 6.

601.01
Adolescent/High school programs and facilities to accommodate such programs are the result of careful, complete and creative planning.

601.02
The planning process is essentially identical for all types of educational environments. It involves identifying the users, describing the learning activities and their desired outcomes, defining the relationship of one learning space to others, describing needed equipment and furnishings and specifying special environmental considerations.

601.03
Educational specifications shall be prepared to include a careful computation of room, area and building capacities required to offer programs of study as outlined in the Master Plan, State Board Policy 2510 and Criteria of Excellence. Consideration should be given to changing various learning spaces and activity areas through the use of folding and movable walls.

601.04
Departmentalization, specialization of instructional spaces, elective subjects and scheduling are factors to be considered in determining the number of teacher stations.
NOTE: The following formula considers only the number of pupils; none of the above are considered.

A. The number of teaching stations needed may be determined by applying the following formula to each subject area. (When general purpose instructional spaces are considered interchangeable for different subject areas, the calculation may be made for a group of subject areas.)

B. The basic formula:

$$\text{Number of Teaching Stations} = \frac{\text{Number of pupils enrolled in subject} \times \text{Number of periods per week in subject}}{\text{Desired average class size} \times \text{Number of periods per week each teaching station can be used.}}$$

C. Example of tenth grade social studies:

$$\text{Number of Teaching Stations} = \frac{200 \text{ pupils enrolled} \times 5 \text{ periods per week}}{25 \text{ pupils per class} \times 30 \text{ periods of use of teaching station}}$$

$$= \frac{1{,}000 \text{ pupil-periods of instruction}}{750 \text{ pupil-periods that can be provided in one teaching station}}$$

$$= 1.4$$

D. The formula may also be adopted to determine the pupil capacity of a proposed school building. (See section 301.05)

601.05

The pupil capacity of a school building is affected by the educational program; it changes each time the program is modified. A more complete analysis of the operational capacity of proposed school buildings may be obtained by referring to: Conrad, M.J., A Manual for Determining the Operating Capacity of Secondary Schools - Bureau of Educational Research and Service, Ohio State University; Castaldi, Basil, The Castaldi Nomogram - The New England School Development Council.

601.06

Since 1960, schools (like all institutions) have been affected by generalized social ferment and accelerating rate of change. Diversity of design is obvious. Flexibility, new building systems, open space, complex equipment, carpeting, air conditioning, moveable walls, pods and the use of new energy sources are a few features of contemporary schools. These innovations are the result, not only of new technical capabilities, but also of a rather pervasive change in the perception of how learning happens. The importance of self-direction, spontaneity and individualization for the student has been recognized due to the efforts of a group of vocal educators. Spaces and furnishings which promote these qualities - facilities which are open, colorful, informal and comfortable and which allow movement and provide visual and spatial variety - have been

constructed. These schools exemplify a new concern for the needs and preferences of the users.

602 GENERAL PURPOSE (ACADEMIC) CLASSROOMS OR INSTRUCTIONAL AREAS

Rooms should be designed to serve specific needs of language arts, foreign language, mathematics, social studies and certain other subject areas. They should also be designed to permit interchanged use as program needs demand.

602.01 Size

Base preliminary determination of area upon an allotment of 28 to 30 square feet per pupil. For example: 700 to 750 square feet of floor area should be planned for 25 pupils in an instructional space. To more accurately determine the area, trial room layouts should be made using scaled templates representing furniture and equipment and scaled floor and wall elevation drawings.

602.02 ~~Suggested~~ Design Capacity - 25 Pupils

602.03 Location

A. Isolation from noisy areas of the building
B. Close proximity to the media center
C. Location which will permit easy expansion

602.04 Activities

Speaking; laboratory drills; lecture; group discussion; viewing slides, films and other projected materials; listening to recordings and broadcasts; writing or drawing on chalkboards, desk and/or tables; displaying pupils' work; storing instructional materials and supplies; demonstrations; and lab activities in mathematics where stations with individual assignments are to be done with manipulative materials.

602.05 Equipment Space and Facilities

A. Chalkboards, bulletin boards and other display areas - as much as possible, a minimum two-thirds of available wall space
    1. Chalkboards and bulletin boards should have map rails installed above
    2. The bottom of the display area should be at the eye level of the student when seated
B. Storage
    1. Storage for teacher's personal belongings
    2. Storage for teaching aids and supplies
        a. Closed and open shelving
        b. Four-drawer filing space
C. Teacher's combination desk-table and chair
D. Conference-type table and chairs
E. Desks and chairs, or combination chair-desks
F. Desirable equipment
    1. Corridor display cabinet for pupils' work
    2. Rack for storage of periodicals pertaining to subject matter being taught

3. All major types of audiovisual equipment should be readily available within classroom or the nearby media center

G. Adequate provision for controlling the light level in instructional areas is essential. (For efficient use of projection-type materials, the light in the room, particularly in the area of the projection surface, should not exceed one-tenth foot candle.)

H. Duplex service receptacles should be installed on all walls of the instructional space for the use of instructional equipment. Sufficient branch electrical circuits service should be in each room. ~~Conduits should be provided~~ Conduit or other provisions shall be installed to permit future ~~installation~~ use of computer terminals, television and other electronic instructional devices. ~~System conduits should be at least one and one-half inches in diameter in order to provide for installation of television and other teaching devices as indicated above.~~

I. Where there are specialized facilities, such as language labs, study carrels, micro-teaching and television, provision should be made for electrical service in the floor.

J. A projection surface should be permanently installed in each instructional area with provision for eliminating keystoning.

K. Use of audio devices mandates acoustical treatment of walls, ceilings and floors in instructional areas, media centers and other such areas, particularly in open-type classrooms where many activities are occurring simultaneously.

L. Carpeting or resilient material.

603 CORRECTIVE/REMEDIAL INSTRUCTION (OPTIONAL)

Reference: Section 503

603.01 Size

Base preliminary determination of area upon an allotment of 28 to 30 square feet per pupil. For example: 420 to 450 square feet of floor area should be planned for 15 pupils in an instructional space. To more accurately determine the area, trial room layouts should be made using scaled templates representing furniture and equipment and scaled floor and wall elevation drawings.

603.02 ~~Maximum~~ Design Capacity - 15 Pupils

603.03 Location

A. Isolation from noisy areas of the building
B. Close proximity to the media center
C. Location which will permit easy expansion

603.04 Activities

Speaking; laboratory drills; lecture; group discussion; viewing slides, films and other projected materials; listening to recordings and broadcasts; writing or drawing on chalkboards, desk and/or tables; displaying pupils' work; storing instructional materials and

supplies; demonstrations; and lab activities in mathematics where stations with individual assignments are to be done with manipulative materials.

603.05 Equipment Space and Facilities

A. Chalkboards, bulletin boards and other display areas - as much as possible, a minimum two-thirds of available wall space
   1. Chalkboards and bulletin boards should have map rails installed above
   2. The bottom of the display area should be at the eye level of the student when seated
B. Storage
   1. Storage for teacher's personal belongings
   2. Storage for teaching aids and supplies
      a. Closed and open shelving
      b. Four-drawer filing space
C. Teacher's combination desk-table and chair
D. Conference-type tables and chairs
E. Desirable equipment
   1. Rack for storage of periodicals pertaining to subject matter being taught
   2. All major types of audiovisual equipment should be readily available within classroom or the nearby media center
F. Adequate provision for controlling the light level in instructional areas is essential. (For efficient use of projection-type materials, the light in the room, particularly in the area of the projection surface, should not exceed one-tenth foot candle.)
G. Duplex service receptacles should be installed on all walls of the instructional space for the use of instructional equipment. Sufficient branch electrical circuits service should be in each room. Conduits should be provided to permit future installation of computer terminals, television and other electronic instructional devices. System conduits should be at least one-and-one-half inches in diameter in order to provide for installation of television and other teaching devices as indicated above.
H. Where there are to be specialized facilities, such as language labs, study carrels, micro-teaching and television, provision should be made for electrical service in the floor.
I. A projection surface should be permanently installed in each instructional area with provision for eliminating keystoning.
J. Use of audio devices mandates acoustical treatment of walls, ceilings and floors in instructional areas and media centers, particularly in open-type classrooms where many activities are occurring simultaneously.
K. Carpeting and/or resilient material

604 ART FACILITIES

Art facilities should accommodate the studio and classroom activities of a full art program. Basic to all activities would be space allotment, natural and artificial light, movable furniture or

furnishings, display space, several kinds of storage space, deep sinks with clean-out traps and adequate electrical outlets.

604.01 Size
Studio - ~~minimum of~~ approximately 1200 feet or the equivalent, exclusive of storage.

604.02 Design Capacity
Recommended class size for studio activities - 25. For maximum flexibility, the studio should accommodate up to 40 on occasion.

604.03 Location
Ground floor with outside accessibility is the preferred location. Pertinent factors:

A. Accessibility of freight elevator (if not first floor location) for heavy consumable materials such as clay and sculpture media.
B. Need for uncarpeted floor in studio areas. Floors should be of concrete, tile, linoleum or other material not easily damaged by paint or clay.
C. Good lighting, both natural and artificial. Natural light is important for many activities and essential for painting.
D. Space should contain, or be accessible to, facilities for the use of slides and film. Blackout curtains, projection facilities and chairs equipped with tablet arms.
E. Power tools and equipment may, subject to local policy, be borrowed from or shared with Industrial Arts area.
F. Provide power ventilation for removal of fumes, dust, odors and gases from turpentine, lacquer thinners, acids and toxic markers.

604.04 Activities
Discussion, studio, lecture, combination. Basic - drawing, painting, sculpturing, ceramics, design, art, history and appreciation and crafts.

604.05 Equipment Space and Facilities

A. Sink and work counter units
    1. Hot and cold water with mixing faucets
    2. No less than two deep sinks of stainless steel with long drainboards
    3. Large drains and clean-out traps
    4. Long counter for mixing paints and other such activities
    5. Storage for mixing pans, water jar and brushes (under sink and counter)
B. Special storage for:
    1. Drawing boards
    2. Shelves for storage of flat work, a minimum of 28 inches x 40 inches. May be built in or movable.
    3. Prints (similar to above)
    4. Audiovisual materials and special books
    5. Tools used in construction
    6. Unfinished work
C. Chalkboard - at least six linear feet

D. Bulletin Boards - all available wall space (at least one full wall)
E. Display facilities for projects - glass covered in studio and hall
F. Work benches, tilt-top tables and easels, as selected by instructors - movable to permit flexible grouping, with accommodations for:
   1. Teachers' desk and storage area
   2. Provision for hanging mobiles from ceiling
   3. Kilns and potter's wheels. Kiln room - 8 feet x 10 feet is desirable for kiln, clay, glazes, equipment and shelves for work in progress. Adequate electrical circuits, including 220 volts for kiln
   4. Press for graphics
G. Dark room for photography, with mechanical ventilation
H. Doorway opening at least 42 inches wide
I. Duplex outlets along wall spaces and above work counter - no less than 12
J. All electric and gas kilns hooded and mechanically ventilated when in use
K. A ceramic kiln co-located with each general art classroom

604.06 Storage Room
~~A minimum of~~ Approximately 400 square feet is suggested for each full studio, to include shelves for paper, paints and supplies, and for unfinished work which cannot be stacked, such as wet paints, prints and ceramics, with a special shelf in studio or storage room for unfinished constructions - at least 20 linear feet.

605 DRIVER EDUCATION FACILITIES

Designed to provide a comprehensive course in Driver Education and must include instructional space, laboratory and storage areas.

605.01 Instructional Space

605.011 Size
A minimum of 28 to 30 square feet per student. A room rectangular in shape is essential to adequately accommodate the projection of visual instructional materials and to station the students a minimum distance from the projection screen.

605.012 Design Capacity - ~~36~~ 25 Students

605.013 Location
For convenience and efficiency, this facility should be located on the ground level so as to permit easy access to automobiles used for behind-the-wheel instruction.

605.014 Activities
Lecture; group discussion; chalkboard presentations; use of psycho-physical testing equipment; viewing slides, transparencies and films; studying charts, cut-aways and models; and testing activities.

605.015 Equipment Space and Facilities

A. Chalkboard
B. Tackboard
C. Black-out window shades
D. At least four electrical outlets
E. Wall rail to suspend charts
F. Teacher's desk and chairs
G. Work table
H. Lower work noise levels in room
I. Prevent transmission of sound to and from other rooms (Consult State Department of Education for list of required equipment.)
J. Carpet

605.02 Teacher Study and/or Office Room

Teacher's study and instructional space may be joined by a partition for security and accessibility with facilities for counseling students and lesson preparation, and storage space for personal belongings and records.

605.021 Size - ~~10'-x-12'~~ 50 to 75 Square Feet

605.022 Location - Adjoining Instructional Space

~~605.023 Equipment Space and Facilities~~

~~A. Well-lighted and ventilated~~
~~B. Instructor's desk and chairs~~
~~C. One four-drawer legal size filing cabinet~~
~~D. Storage for instructor's personal belongings~~
~~E. Tackboard---four x five feet~~
~~F. One book case~~
~~G. Carpet and or resilient material~~

605.03 Storage Room

Allow 20 to 25 linear feet of open shelving and 40 to 50 linear feet of closed shelving. Instructional equipment, teaching aids and supplies must be secured to prevent loss and to assure accessibility when needed.

605.04 Laboratory or Simulator Room (Optional)

This room should be free of columns which would obstruct the students' vision of the screen.

605.041 Size

Installation of 12 simulator units and the master console requires an absolute minimum area of 38 feet x 24 feet.

605.042 Design Capacity - 12 Pupils

605.043 Location

Adjoining driver education instructional space and office storage room with direct access to other areas.

605.044 Equipment Space and Facilities

A. Floor conduit for simulators and master control unit
B. Provide means for darkening room
   1. Black-out shades for windows, if any (Few or no windows are recommended.)
   2. Dimmer switch for lighting control
   3. Two-way ceiling switch
C. Electrical outlets along walls supplied with 120 volt, 60 cycle, 15 amp. service
D. Sound control is very important
E. Instructor's desk and chair
F. Projection screen 12 feet x 16 feet for 16-place simulator system and 10 feet x 12 feet for 12-place system
G. Storage area - see 605.03
H. Adequate ventilation and temperature control system
I. Should not be painted white, which would result in excessive reflection of light. A pastel shade of paint is recommended.

605.05 Multi-Media (Programmed Instruction) Instructional Space (Optional)
This area could also be used for the regular instructional space.

605.051 Size
~~Room-a-minimum~~ Approximately 33 feet long and 28 feet wide.

605.052 Design Capacity
30 students with special or adapted furniture and the instructor's console. Equipment is available to accommodate larger groups. An increase in class size will require a comparable adjustment in room size.

605.053 Location
Adjacent to driver education area.

605.054 Equipment Space and Facilities
A. Floor conduit and master console
B. Provide adequate means for darkening room
C. A minimum of 12 feet distance between students and screen. The screen should not be viewed from more than a 30 degree angle.
D. Electrical current - 120 volt, 80 amp. service with four 20 amp. breakers
E. Screen - 6 feet x 12 feet

605.06 Multiple-Car Driving Range (Optional)
Intelligent planning of a multiple-car facility will provide acres of well-drained area. The surfacing of this area with stone or asphalt requires careful consideration to assure stabilization without undue pavement deterioration due to climatic conditions, nature of the soil base and drainage.

605.07 Planning the Multiple-Car Facility
These plans must include cost considerations, site selection and development, facility design, equipment and instructional plan. Consider use as parking for off-hour athletic or community use.

605.08 Planning Assistance

May be obtained from the West Virginia Department of Education, Bureau of General, Special and Professional Education, Driver Education.

606 FOREIGN LANGUAGE FACILITIES

Factors influencing the type of foreign language facility to be chosen include the type of laboratory facility desired. Laboratory facilities can be an electronic classroom, a language laboratory into which students are scheduled from classes held in general purpose classrooms or general purpose classrooms adapted for foreign language study.

606.01 General Purpose Classrooms Used for Foreign Language

606.011 Size - 28 to 30 Square Feet Per Pupil (exclusive of storage areas)

606.012 Design Capacity - 25 Pupils

606.013 Location

A. Isolation from noisy areas of the building
B. Near the media center

606.014 Activities

Speaking; laboratory drills; group work; reading; chalkboard work; using audiovisual materials; singing; working with tapes and records individually (in carrels); play acting and dancing.

606.015 Equipment Space and Facilities

A. Chalkboard - minimum of 20 linear feet with display and map rail above
B. Tackboard - minimum of ten linear feet with display and map rail above
C. Storage
    1. Teacher's storage for personal belongings
    2. Closed and open shelving - minimum of 24 linear feet of each
    3. Tape racks and storage cabinet
    4. Record racks and storage cabinet
D. Teacher's combination desk-table and chair
E. Conference-type table and chairs
F. Non-stationary students' desks and chairs, or combination chair-desks
G. Duplex electrical outlets on all feasible walls
H. Bookshelving - minimum of 20 linear feet
I. Provision for darkening room
J. Movable cart for audiovisual equipment
K. Tape recorder with jack box and headsets
L. Carrels for individual work are desirable
M. Carpeting
N. Wireless laboratory, optional
O. Projection surface

606.02 Electronic Classroom

606.021 Size - 35 Square Feet Per Pupil (exclusive of storage space)

606.022 Design Capacity - 25 Pupils (allow five percent more stations)

606.023 Location
Near media center and isolated from noisy areas of building.

606.024 Activities - See Section 606.014

606.025 Equipment Space and Facilities

A. Chalkboard - minimum of 20 linear feet, with display and map rail above
B. Tackboard - minimum of ten linear feet, with display and map rail above
C. Storage
    1. Storage for teacher's personal belongings
    2. Closed and open shelving - minimum of 24 linear feet of each
    3. Tape racks and storage cabinet
    4. Record racks and storage cabinet
D. Teacher's combination console-desk and chair
E. Conference-type table and chairs
F. Student seating
    1. Stationary tables wired to reproduce sound from console and movable chairs
    2. Overhead wiring on droppable units to reproduce sound from console and combination chair-desks (This type installation needs fewer square feet per pupil than the stationary tables.)
G. Duplex electrical outlets on all feasible walls
H. Bookshelving: minimum of 20 linear feet
I. Provision for darkening room
J. Microphones, one per station
K. Headsets, one per station
L. Carpeting (optional)
M. Suggested readings to provide background for selection of laboratory facilities are as follows:
    1. Stack, Edward M. The Language Laboratory and Modern Language Teaching, (Rev.ed) New York: Oxford University Press, Inc., 1966.
    2. Grittner, Frank M. Teaching Foreign Language. New York: Harper & Row, Publishers, 1969.
    3. Oliva, Peter F. The Teaching of Foreign Languages. Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1969.
N. Projection surface
O. Jack and plug to place sound track from 16 mm projector into classroom sound systems desirable.

606.03 Language Laboratory

606.031 Size - 35 Square Feet Per Pupil (exclusive of storage space)

606.032 Design Capacity - 25 Pupils (allow five percent more stations)

606.033 Location
In center of, or adjacent to, foreign language classrooms.

606.034 Activities
Language laboratory drill and recording.

606.035 Equipment Space and Facilities
- A. Chalkboard - minimum of 10 linear feet
- B. Tackboard - minimum of 10 linear feet
- C. Storage
  1. Four-drawer filing space
  2. Tape storage space
  3. Record storage space
  4. Lockable storage spaces for detachable equipment, such as headset and microphones
- D. Teacher's combination console-desk and chair
- E. Stationary booths and movable chairs for students
- F. Duplex electrical outlets on all walls
- G. Headsets, one per station
- H. Microphones, one per station
- I. Provision for darkening rooms
- J. Carpeting (desirable)
- K. See bibliographical references in 606.025M for information about selecting laboratory equipment.
- L. Projection surface

606.04 Teacher Work Area

606.041 Size - Approximately 250 Square Feet
~~Area as needed---minimum.~~

606.042 Design Capacity - Two Instructors and Several Pupils

606.043 Location
Opening into language laboratory or classrooms.

606.044 Activities
Preparation of tapes, duplication of tapes and records, preparation of instructional materials, small group activities, reading and grading.

606.045 Equipment Space and Facilities
- A. One desk and chair per teacher
- B. One legal size filing cabinet per teacher
- C. Storage for instructors' personal belongings
- D. Table or movable cart for audiovisual equipment
- E. Conference table and chairs
- F. Chalkboard and tackboard, minimum of five linear feet each
- G. Storage for instructional aids
- H. Soundproof area for recording tapes
- I. Telephone, desirable
- J. Projection surface
- K. Carpet

607 LEARNING RESOURCE CENTER

See Chapter 3.

608 MUSIC FACILITIES

Factors influencing the location of this complex include: isolation from quiet areas of the building; ease of isolating the area for use during and after school hours; inclusion in the general arts area with convenient access to the auditorium stage; and direct or convenient access to the out-of-doors. Location of facilities within the suite should provide ease of supervision of all areas. Acoustical treatment should provide proper sonic environment to prevent sound transmission to remainder of the building.

608.01 Music Studio

NOTE: Choral and instrumental studios may be planned as ~~separate or~~ combined facilities. Assistance in design and planning may be obtained from the music specialist of the State Department of Education.

608.011 Size - ~~35~~ 30 to 40 Square Feet Per Pupil
- 12 Feet Ceiling Height

608.012 ~~Minimum~~ Design Capacity - 40 Students

608.013 Location

A. Direct access to instrumental storage
B. Direct or convenient access to other rooms in the music suite
C. Isolated as much as possible from quiet areas of the building

608.014 Activities

Conduct instrumental and choral music rehearsals; view slides, films and other projected materials; listen to recorded music; demonstrations of various types of instruments; write or draw on chalkboard and display materials.

608.015 Equipment Space and Facilities

A. Chalkboard - maximum of 30 linear feet, on front wall of which at least eight linear feet is etched with staff lines
B. Tackboard - 8 to 10 linear feet, located near entrance
C. Storage for vocal and instrument accessories
   1. Wall cabinets for music folders
   2. Open shelving for books, tapes, cartridges and record albums; 12 inches deep and 14 inches clear height: 40 linear feet
D. Folding chairs with folding tablet arms
E. Music stands
F. Director's podium
G. Tape recorder

H. Conference work table
I. Three or more legal size, four-drawer filing cabinets
J. Wide door with flush threshold for moving large instruments to and from the studio
K. Two or three microphone outlets for recording in the studio
L. Stereo sound reproducing system with a minimum capacity of 40 watts - 20 watts per channel
M. Piano and bench
N. Pupil wardrobe or lockers
O. Instructor's desk
P. Availability of audiovisual equipment

608.02 Practice Rooms (Optional)

608.021 Size - 50 to 60 Square Feet Each

608.022 Design Capacity - 2 to 4 Pupils

608.023 Location
A. Convenient access from other music rooms
B. Access to instrumental storage without passing through studio
C. Convenient access from building corridor
D. Permit ease of supervision

608.024 Activities
Vocal and instrumental practice.

608.025 Equipment Space and Facilities
A. Two or three chairs and music stands
B. Glazed partition of insulating glass for ease of supervision
C. Acoustical treatment
D. Independent, forced ventilation

608.03 Ensemble Instructional Space (Optional)
May be part of multi-use choral and instrumental studio.

608.031 Size - Approximately 30 Square Feet Per Pupil

608.032 Design Capacity - 8 to 12 Pupils

608.033 Location
A. Convenient access from other music rooms
B. Access to instrumental storage without passing through studio
C. Convenient access from building to corridor
D. Permit ease of supervision

608.034 Activities
Choral and instrumental practice and small group instruction.

608.035 Equipment Space and Facilities
- A. Chalkboard - 16 to 20 linear feet, tackboard
- B. Glazed partition for ease of supervision
- C. Acoustical treatment
- D. Independent, forced ventilation
- E. Piano and bench
- F. Folding chairs with folding tablet arms
- G. Music stands

608.04 Instructor's Office and Library
May be separate rooms or combination.

608.041 Size
Area as needed ~~minimum~~ - approximately 250 square feet.

608.042 Design Capacity - Two Instructors and Six Pupils

608.043 Location
- A. Direct or convenient access to other music rooms
- B. Permit ease of supervision of studio and auxiliary rooms

608.044 Equipment Space and Facilities
- A. Instructor's desk and chair
- B. Four-drawer, legal size filing cabinets (three to four)
- C. Storage for instructor's personal belongings
- D. Chalkboard and tackboard - six to eight linear feet each
- E. Conference table and chairs
- F. Storage for printed music, records, tapes and other instructional aids
  1. Open shelving - 15 to 20 linear feet
  2. Closed shelving - 30 to 40 linear feet
- G. Stereo sound reproducing equipment
- H. Music sorting rack

608.05 Instrument Storage

608.051 Size
Area as needed - ~~minimum of~~ approximately 350 square feet.

608.052 Storage Shelving
Necessary to accommodate instruments of various sizes.

608.053 Temperature
Temperature and humidity are maintained at acceptable levels.

608.06 Robe and Uniform Storage
May be in portable wardrobes or separate rooms; ventilate as needed.

609 PHYSICAL EDUCATION

Factors influencing location include: Isolation from quiet areas of the building; direct access to the outside; and provision for closing off area for after-school use.
NOTE: Although less desirable, these facilities may be combined with assembly facilities.

609.01 Gymnasium

609.011 Size
Determination of size is dependent upon physical education spaces to be located. Allow approximately 7000 square feet. Floor area should be marked for various games.

609.012 Design Capacity
Two or more groups of 35 pupils for physical education.

609.013 Location
Convenient access from locker and shower rooms.

609.014 Activities
Include soccer, volleyball, basketball, football, softball, folk and square dance, gymnastics and other activities to meet county curriculum. Recommend college-size basketball court (50 feet x 94 feet), plus spectator seating. As a minimum, provide 24 feet ceiling height.

609.015 Equipment Space and Facilities
A. Provisions for using the learning center as two or more teaching stations may require canvas-net partition, fold-door partition or mechanical folding walls.
B. Electrical outlets, record player, auxiliary lighting and cleaning equipment; additional special outlets.
C. Forced ventilation
D. Small cases for display purposes - two or three
E. Tackboard - 12 to 16 linear feet
F. Public telephone
G. Drinking fountains (angle jet type)
H. Comfortable, low-wall seating
I. Lounge furniture

609.02 Equipment Storage Rooms
At least two in each station.

609.021 Size
Area as needed to store all equipment. ~~150-square-feet minimum~~.

609.022 Location
Directly accessible to each teaching station when the station is divided into two.

609.023 Equipment Space and Facilities
A. Open storage area for items such as standards, vaulting horses and horizontal bars
B. Enclosed storage cabinets for small items of physical education equipment
C. Double doors and flush threshold

609.03 General Storage

609.031 Size
Large enough to store all equipment. ~~150 square feet minimum.~~

609.032 Location
Direct or convenient access to learning station.

609.04 Boys' and Girls' Dressing-Locker Rooms
Physical education and varsity programs.
NOTE: Recommend treatment of walls in these areas with epoxied materials to enhance maintenance. Also, quarry tile or similar floor materials.

609.041 Size
Dependent upon manner in which such items as gym clothing, street clothing and towel distribution are handled and the number of pupils expected to use this facility. ~~Minimum---750~~ 600 to 700 square feet.

609.042 Location
A. Direct or convenient access to learning station
B. Direct access to outside physical education areas
C. Direct access to building corridor
D. Direct access to body-drying room
E. Permit ease of supervision

609.043 Activities
Dressing for physical education; storing street and gym clothes; informal talks with physical education instructors.

609.044 Equipment Space and Facilities
A. Street clothes lockers dispersed among gym clothes lockers
B. Space for additional lockers
C. Benches adjacent to or between rows of lockers
D. Small toilet room or partitioned area with water closet, lavatory and urinal
E. Forced ventilation
F. Mirrors to accommodate large numbers of pupils, shelving under each mirror and one full-length mirror
G. Tackboard near entrance - four to eight linear feet
H. Chalkboard - six linear feet
I. Drinking fountain

609.05 Boys' and Girls' Shower Rooms

609.051 Size - ~~Minimum of~~ Approximately ~~120~~ 200 Square Feet

609.052 Location
Access to locker-dressing room only through the body-drying room.

609.053 Equipment Space and Facilities
A. Gang showers - 12 to 16
B. Master volume and maximum temperature controls
C. Individual temperature and on-and-off controls

D. Bar soap trays
E. Forced ventilation
F. Floors are of easily cleanable material
G. Floor drains away from normal traffic
H. Hose bibb for hot and cold water
I. Walls of non-absorbent material

NOTE: Individual dressing, drying and showering booths may be provided in girls' shower area. The number should not exceed three or four.

609.06 Boys' and Girls' Body-Drying Rooms

609.061 Size - ~~Minimum of~~ Approximately 100 Square Feet

609.062 Location
A. Direct access from locker-dressing and shower rooms; entries to require maximum travel distance through drying room
B. Direct or convenient access from varsity locker-dressing room

609.063 Equipment Space and Facilities
A. Stub towel holders
B. Floor drains away from center
C. Forced ventilation
D. Floors are of easily cleanable material
E. Hose bibb for hot and cold water

609.07 Towel Room (Optional)

609.071 Size - 50 to 60 Square Feet

609.072 Location
A. Convenient to the locker-dressing and shower areas
B. Permit ease of supervision from locker-dressing area and instructor's office

609.073 Activities
Temporary storage, distribution and collection of towels.

609.074 Equipment Space and Facilities
A. Shelving to accommodate laundered towels
B. Movable laundry carts to accommodate used towels
C. Dutch door for issuing and receiving towels

609.08 Laundry Area (Optional)

609.081 Size - 100 Square Feet

609.082 Location
Convenient to physical education and dressing rooms or areas.

609.083 Activities
Launder and dry gym clothing.

609.084 Equipment Space and Facilities
- A. Washing machine
- B. Vented dryer
- C. Laundry tub
- D. A separate work surface for handling both clean and soiled clothing and equipment

609.09 Instructors' Offices (one for each instructor)

609.091 Size - ~~Minimum of~~ Approximately 100 Square Feet

609.092 Location
- A. Direct access to locker-dressing room
- B. Direct or convenient access to gymnasium and outdoor physical education areas
- C. Permit ease of supervision of locker-dressing rooms

609.093 Activities
Instructors' showering, toilet and dressing.

609.094 Equipment Space and Facilities
- A. Toilet, lavatory and shower
- B. Desk and chair
- C. Conference chairs
- D. Four-drawer filing cabinet
- E. Storage of personal belongings
- F. Book shelving - 10 to 15 linear feet
- G. First aid equipment
- H. Telephone

609.10 Training Area

609.101 Size - Approximately 200 Square Feet

609.102 Location
Convenient to dressing, locker room.

609.103 Activities
Care of body.

609.104 Equipment Space and Facilities
- A. Whirlpool hook-up
- B. Rub-down table
- C. Heat lamps
- D. Supply cabinet

609.11 Equipment Storage Room

609.111 Size - Approximately 150 Square Feet

609.112 Location
Convenient to dressing, locker rooms.

609.113 Activities
Uniform and equipment storage.

609.12 Optional Spaces

609.121 Wrestling - 42 Feet x 42 Feet, or 1800 Square Feet

609.122 Weight Room - 1000 Square Feet

609.123 Multi-purpose Room - 1600 Square Feet

610 SCIENCE FACILITIES

Items to be considered in locating these facilities are: Ease of access to outdoor science areas; ease of delivery of supplies and materials; and isolation so odors cannot infiltrate the remainder of the building. Facilities may be designed for instruction in single disciplines or in combinations, such as physics-biology, physics general-science and chemistry-biology. Although optional, DC electricity, compressed air and vacuum are desirable inclusions due to the expense of portable units over a series of years.

610.01 Combination Chemistry-Physics Lecture Laboratory

610.011 Size
Base preliminary determination of area on allotment of 45 to 50 square feet per pupil; ~~minimum~~-- approximately ~~800~~ 900 square feet, exclusive of separate storage.

610.012 Design Capacity - 20 Students

610.013 Location
- A. Direct access to storage and project preparation rooms
- B. Convenient access to other science instructional space laboratories

610.014 Activities
Instruction and demonstration; class-size and small group discussion; viewing films, slides and other projected materials; individual study and research; individual and small group experimentation; and storing of equipment and materials.

610.015 Equipment Space and Facilities
- A. Chalkboard - 25 to 35 linear feet; chart and display rail above
  1. Minimum of 40 inches clear height
  2. Major portion on front wall
- B. Tackboard - 10 to 16 linear feet; chart and display rail above
- C. Adjustable shelving - 30 linear feet
- D. Conference table and chairs
- E. Ventilated (portable or fixed) fume hood
  1. Equip with gas, compressed air, AC and DC electricity and water with vacuum breakers
  2. Wide enough for two pupils
  3. Easily visible from demonstration area if fixed piece of equipment

F. Instructor's demonstration table, including sink, hot and cold water, gas, AC and DC electricity, compressed air and vacuum
G. Laboratory work space two-and-one-half linear feet per student (may be provided as tables or work counter)
   1. Equip with sink, water, gas, AC and DC electricity flush plates and support rods
   2. Individual pupil storage units
   3. Corrosive-resistant work surface and plumbing
   4. Perimeter location preferred
H. Open shelving for often-used chemicals and other materials
I. Fire extinguisher and blanket
J. Balance cases - five to six
K. Tablet-arm chairs or two-pupil work tables and chairs
L. Teacher's desk and chair
M. Facilities for darkening the room
N. Emergency showers
O. Provide main gas shut-off valve for all laboratory equipment

610.02 Chemistry Storage

610.021 Size - ~~Minimum of~~ Approximately 100 Square Feet

610.022 Location
A. Direct access from project preparation room
B. Convenient access from instructional space laboratory

610.023 Equipment Space and Facilities
A. 75 to 100 linear feet of adjustable shelving of varied heights and depths
B. Positive, independent ventilation
C. Window between storage area and instructional space
D. Storage of explosive or flammable material and concentrated acids

610.03 Physics Storage Room

610.031 Size - ~~Minimum of~~ Approximately 100 Square Feet

610.032 Location
A. Direct access from project preparation room
B. Convenient access from instructional space laboratory

610.033 Equipment Space and Facilities
A. Adjustable shelving of varied heights and depths - 75 to 100 linear feet
B. Maximum closed adjustable shelving

610.04 Project Preparation Room
Optional as a separate room. However, preparation facilities must be provided outside the instructional space laboratory.

610.041 Size
Approximately 200 square feet; if combined with storage - 400 square feet.

610.042 Design Capacity - Instructor and Approximately 6 Pupils

610.043 Location
A. Direct access from instructional space laboratory and from building corridor
B. Convenient access from other science facilities located in adjacent portions of the science suite
C. Permit ease of supervision from instructional space laboratories

610.044 Activities
Preparation for demonstrations; storage of projects; individual and small group project work.

610.045 Equipment Space and Facilities
A. Maximum work counter space with minimum of two sinks
B. Storage units above and below work counter
C. Water, gas, vacuum, compressed air and AC and DC electricity at work counter
D. File cabinet

610.05 Darkroom (Optional)

610.051 Size - ~~Minimum of~~ Approximately 100 Square Feet

610.052 Design Capacity - Instructor and Approximately 4 Pupils

610.053 Location
A. Direct access from instructional space laboratory
B. Convenient access to corridor without passage through instructional space laboratory

610.054 Equipment Space and Facilities
A. Laboratory work counter
1. Acid-resistant sink, large enough to accommodate three pans
2. Storage below
3. Gas, electricity and hot and cold water with vacuum breakers
4. Safety lights
B. Storage cabinet for photography equipment and materials
C. Warning light with switch near door
D. Adequate ventilation

610.06 Biology and/or General Science Instructional Space Laboratory

610.061 Size
Base preliminary determination of area on allotment of 40 to 45 square feet per pupil; ~~minimum--~~ approximately 800 square feet, exclusive of separate storage room.

610.062 Design Capacity - 20 Pupils

610.063 Location

A. Direct access to project preparation room
B. Direct or convenient access to storage and growing room (Growing room facilities may be included in Instructional Space Laboratory)
C. Convenient access to other rooms in the science suite

610.064 Activities

Instruction and demonstrations; class-size and small group discussion; individual and small group experimentation; viewing slides, films and other projected materials; writing or drawing at tables and chalkboards; individual study and research; display of pupil projects.

610.065 Equipment Space and Facilities

A. Chalkboard - 20 to 30 linear feet with chart and display rail above
   1. Minimum of 40 inches clear height
   2. Major portion of front wall
B. Tackboard - 10 to 12 linear feet with chart and display rail above
C. Work counter - 40 to 50 linear feet, minimum; and must have pupil work space to accompany it
   1. Three to four acid-resistant sinks with hot and cold water
   2. Impervious work surface
   3. Gas and electricity
   4. Storage under work counter
   5. Movable aquariums and terrariums
D. Closed shelving - 30 to 40 linear feet, 18 inches deep
E. Open shelving - 15 to 20 linear feet
F. Instructor's demonstration table including sink, hot and cold water, gas and electricity. Two-and-one-half linear feet per pupil may be provided as equivalent pupil work space, which is not as restrictive as combination desk-chairs.
G. Two-pupil tables and chairs
H. Teacher's desk and chair
I. Facilities for darkening room
J. Fire extinguisher and blanket
K. Lavatory
L. Provide main gas shut-off valve for all laboratory equipment

610.07 Biology and/or General Science Storage

610.071 Size - ~~Minimum of~~ Approximately 200 Square Feet

610.072 Location

A. Direct access from project preparation room
B. Direct or convenient access from instructional space laboratory and growing room

610.073 Equipment Space and Facilities
Maximum varied height and depth adjustable shelving. (~~100 linear feet minimum~~ approximately 100 linear feet)

610.08 Project Preparation Room
May be planned as combination with storage area.

610.081 Size - ~~Minimum of~~ Approximately 200 Square Feet

610.082 Design Capacity - Instructor and Approximately 6 Pupils

610.083 Location
Direct access from instructional space laboratory and from building corridor.

610.084 Equipment Space and Facilities
A. Acid-resistant work surface with acid-resistant sink, hot and cold water, gas and electricity
B. File cabinet

611 BUSINESS EDUCATION

Reference: Chapter 8

612 CONSUMER/HOMEMAKING

Reference: Chapter 8

613 ~~INDUSTRIAL ARTS FACILITIES~~ TECHNOLOGY EDUCATION FACILITIES

Reference: Chapter 8

614 EXCEPTIONAL STUDENTS - INSTRUCTIONAL AREAS

Reference: Chapter 7

615 MICROCOMPUTER LABS

615.01 Size - 40 to 45 Square Feet Per Pupil

615.02 Design Capacity - 20 Pupils

615.03 Location
Provide sufficient labs for use by each curriculum area. Core group for smaller facilities and one lab for each curriculum area in larger facilities.

615.04 Activities
~~Active~~ Integrated use of microcomputer applications ~~to~~ in the curriculum.

615.05 Equipment Space and Facilities
A. 20 - 30 inches x 48 inches microcomputer work stations

B. 1 - 30 inches x 60 inches ~~host~~ server station
C. 4 - time-sharing printers
D. Storage cabinets for disks, paper and other materials
E. Teacher's combination desk-table and chair
F. Conference-type table and chairs
G. Chalkboard - ten linear feet (dustless type-dry marker)
H. Tackboard - ten linear feet
I. Dedicated electrical power with surge protection for equipment and conduit for interconnection requirements
J. Projection surface
K. Carpeting
L. Lighting with segmented room control. Use of reostats is recommended for dimming purposes.
M. Provision for darkening room
N. Dedicated phone line for telecommunications
O. Because of the equipment specifications, air conditioning is highly recommended.
P. Due to the rapid advancement in computer technology, current information must be obtained before design work is completed.

616 AUDITORIUM

Factors influencing the location of the auditorium include: Ground level position easily shut off from other areas of the building, convenient access to music and language arts instructional space and physical education dressing-locker rooms to permit use as stage-dressing rooms and to service drive for the delivery of bulky properties; location which allows community groups to use the facility during school hours without interfering with school activities; and a location which permits planned multiple use of lobby area. Location shall be convenient to public parking facilities. Consider accessibility of pupil toilets for public use and instructional space for coat check areas during after-school hours.

616.01 Body of Auditorium

616.011 Size
Dependent upon ultimate seating capacity desired and singular or multiple use of the facility. Approximately six square feet will be needed for each seat provided.

616.012 Design Capacity
Dependent upon desire to seat entire student enrollment or portion of the student enrollment at one time. Should accommodate at least 1/3 of student enrollment.

616.013 Activities
Production and performance of various student plays, concerts and variety shows; performances before student audiences by visiting groups or individuals contributing to the educational program of the school; multiple use of the area for instructional purposes, such as large and small group instruction and distance learning.

616.014 Equipment Space and Facilities

A. Space in front and below auditorium stage for orchestra, band and other activities
B. Acoustical quality so that weak voices of some platform participants may be heard throughout the auditorium with use of sound support system
C. Facilities whereby programs originating in the auditorium may be broadcast throughout the school
D. Sound amplification controls should be located in projection niche or booth
E. Convenience lights arranged and located for partial illumination during performances
F. Light control by multi-way switches convenient to entrances, near stairs to the stage and projection booth
G. Convenience and pilot light circuits should be tied into main light panel for control during productions
H. Duplex electrical outlets, appropriate in number, should be provided
    1. Along front of stage apron
    2. At rear of the body of the auditorium
    3. About one-third the distance from the stage to the rear of the auditorium for use with various audiovisual projectors
I. Projection niche (optional) at the rear of the room for use of film projector
J. Speakers for use with projector located in the rear of the seating area
K. <u>See Chapter 5 for equipment necessary for distance learning.</u>

616.02 Lobby or Student Commons

616.021 Size
Area as needed to handle anticipated capacity.

616.022 Location
To serve as common lobby for auditorium and gymnasium if facilities are provided in the same unit, or may be used as common lobby with other public service areas.

616.023 Activities
This facility may also serve as a student gathering area.

~~616.024 Equipment and Facilities~~
~~See Section 510.02.~~

616.03 Stage

616.031 Size - 1400 to 1600 Square Feet

616.032 Location

A. Provide ample wing space on each side of the stage
B. Access to the stage and building corridor without entering lobby or body of the auditorium

616.033 Equipment Space and Facilities

A. Apron in front of the main curtain, approximately eight feet wide, with direct access to the body of the auditorium at each end
B. Wide double doors with flush threshold opening onto the stage to permit passage of bulky scenery and equipment
C. Hardwood floor for the apron and the stage, and soft wood floor for backstage and wing areas
D. Electrical circuits
    1. Border with roundels of four different colors
    2. Circuits for adjustable spotlights mounted on at least two battens
    3. Flush floor pockets or equivalent mounted in floor behind cyclorama with at least one outlet directly behind proscenium arch on each side
    4. Duplex electrical outlets mounted near floor on walls of stage
    5. Stage work lights (overhead and foot) controlled by multi-way switches at stage entrances
E. Provide panel for controlling stage and house lights, including beam and spotlights; mount in the ceiling of the auditorium
F. Light control panel should be designed to avoid overloading of circuits, resulting in dimmer damage, and should be flexible and expansible
G. Means for mounting 10- to 12-foot roll-up motion picture screen
H. Microphone outlets to the rear of the proscenium arch and two or three under the leading edge of the stage apron

616.04 Stage-Crafts-Workshops-Storage

616.041 Size - Approximately 300-~~to~~-400 Square Feet

616.042 Location

Direct access to the stage, arranged to prevent noise interference on the stage.

616.043 Activities

Prepare, alter and store materials, such as stage flats and properties; store general purpose equipment used for auditorium programs.

616.044 Equipment Space and Facilities

A. Double doors with flush threshold
B. Work counter approximately 30 inches deep, with storage: Ten linear feet
C. Tool cabinet
D. Sink with hot and cold water
E. Movable storage cabinets for stage properties
F. Electrical outlets on available wall space, including area over work bench
G. Tackboard - six linear feet

H. Storage for flats of various widths, appropriate for height of the proscenium arch
I. Locked storage for grand piano, costumes, stage properties and lighting and projection equipment

617 FOOD SERVICE FACILITIES

See Chapter 3

618 ADMINISTRATION AND SPECIAL FACILITIES

See Chapter 3

619 ENGINEERING AND CUSTODIAL FACILITIES

See Chapter 12

700 EXCEPTIONAL STUDENT INSTRUCTIONAL AREAS

Special education programs shall be provided in classrooms that are: ~~not segregated or~~ situated ~~outside~~ within the ~~regular education~~ main school facility; located with age-appropriate nondisabled students, and physically ~~and all classrooms for exceptional students must be~~ comparable to ~~those housing non-exceptional students~~ regular education classrooms.

References:

~~4. American National Standards Institute, A 117.1 1980.~~
~~6. Section 504 Rehabilitation Act of 1973, April 1983, West Virginia Regulations for the Education of Exceptional Students, West Virginia Code, Chapter 18, Article 10 F.~~
~~7. West Virginia Board of Education Policy 2419.~~
~~8. School Laws of West Virginia, 18 10F 1, 1984.~~

4. School Laws of West Virginia (18-10F)
5. American National Standards Institute
7. Section 504 of the Rehabilitation Act of 1973
8. West Virginia Board of Education Policy 2419: Regulations for the Education of Exceptional Students, effective August 6, 1991
9. Uniform Federal Accessibility Standards
10. Individuals With Disabilities Education Act (IDEA) 1990
11. Americans With Disabilities Act

701 PLANNING PROCESS

701.01 Facilities

All facilities designed for special education shall be planned to assist students to function safely with as much mobility as possible and shall be accessible to ~~handicapped~~ students with disabilities. The ~~self contained~~ separate class program requires that the pupil receive instruction from special education teacher(s) for the majority of the school day. The ages of students in this type of program will vary, usually spanning more than one grade level.

701.02 Additional Factors

Additional factors required to conform with the Uniform Federal Accessibility Standards are:

A. Accessibility ramps
B. Safe area for loading and unloading of buses and other means of transportation
C. Toilet rooms, drinking fountains and lavatories that are appropriately equipped
D. Special furniture for wheelchair students to permit easy use
E. Switches, controls, hardware and fire protection systems that are easily used and understood by the exceptional student

F. Food service facilities designed to fit the individual needs of students
G. Non-skid floor covering or carpet
H. Lockable cabinets for securing medications

701.03 Location
Special education classrooms should be easily accessible to cafeteria, library and other central activities. ~~Avoid remote locations that would tend to give psychological feelings of isolation or uniqueness.~~ Special education classrooms are situated within the main school facility, located with age-appropriate, nondisabled students, and are physically comparable to regular education classrooms.

702 BEHAVIOR DISORDERS (~~SELF-CONTAINED~~ SEPARATE CLASS)

702.01 Size - ~~800~~ 600 Square Feet

702.02 Design Capacity - Eight ~~Pupils~~ Students

702.03 Location
Locate in an area with a minimum amount of outside distraction, such as traffic or hallway noise, ~~with easy access to a "time-out" room or isolation area~~ with direct or convenient access to out-of-doors.

702.04 Equipment Space and Facilities
Should be stationary or heavy.
A. Instructional Center
1. Teacher's desk and chair
2. Eight desks and chairs or combination desk-chairs, adjustable in height
3. Two or three round or rectangular work tables with chairs for pupil seating
4. Minimum of three individual learning carrels
5. Teacher aide's desk and chair
B. Storage
1. Two metal storage lockers
2. One four-drawer file with lock
3. 30 linear feet of open shelving
4. Cart for audiovisual equipment
C. Chalkboard - 30 linear feet; display and map rail above
D. ~~Tackboard~~ Bulletin board - 20 linear feet
E. Covered and grounded electrical receptacles located on all walls
~~F. One full length mirror - should be designed to be covered~~
F. Carpeting
~~H. Non-skid floor surface~~
~~I. Windows - frosted lower sections should be constructed for covering or plexiglass~~
G. Movable, designed to be secured, screens - for making two or three study cubicles

H. "Time-out" room - ~~125 to 200~~ 64 to 100 square feet as described in the student's Individualized Education Program (IEP)
   1. Means of monitoring, auditorially ~~or~~ and visually (ie., ~~one~~ two-way vision)
   2. One bench or chair
   3. Remove all locks
I. Phonograph - one
J. Tape recorder - available
K. Typewriter - available
L. Wastebasket - one
M. Intercom - ideally, two-way intercom unit connected to administrative offices
N. ~~Toilet~~ Computer - available
O. Capability of darkening room
P. ~~Electric~~ clock
Q. Availability of audiovisual equipment
R. Computer and work stations - available

703 COMMUNICATION DISORDERS (~~SELF-CONTAINED~~ Separate Class)

703.01 Size - ~~500~~ 800 Square Feet

703.02 Design Capacity - ~~Eight~~ 12 Students

703.03 Location
~~Near classrooms for young children (K-3); in a relatively quiet area, near an administrative unit with accessibility to secretarial services and other special service personnel.~~ Refer to 701.03.

703.04 Equipment Space and Facilities
A. Instructional Center
   1. ~~One~~ Two office desks and three adult chairs
   2. Large table (five feet)
   3. ~~Four~~ Eight to ten chairs for students
   4. Student desk and chairs
   5. Set swastika style carrels
   6. Movable screen covered with sound absorbing material
B. Storage
   1. One four-drawer file with lock
   2. One cart for audiovisual equipment
C. Lighting, artificial - 60 to 75 foot candles
D. Lighting, natural - at least one window with drapes
E. Acoustical treatment - acoustical treatment of ceilings, doors and walls; ideally, draped; carpeted floors
F. Electrical power supply: One 110 volt duplex receptacle on each wall
G. Intercom - ideally, one intercom unit connected to administrative offices; telephone would suffice
H. Chalkboard: One 3 feet x 5 feet, mounted on wall at appropriate height for pupils
I. Tackboard - One 3 foot x 5 feet, mounted to wall

J. One full mirror which enables three to five children to work in front of it
K. Audiometer - one properly calibrated, portable audiometer available
L. Auditory training equipment: Individual amplification units according to need
M. Tape recorder - one assigned for exclusive use of clinician
N. Phonograph - one three speed phonograph available in building
O. Language master - one assigned for exclusive use of clinician
P. Typewriter - made available
Q. Wastebasket - one
R. ~~Electric~~ Clock - one
S. Carpeting
T. Closed-shelf storage bin
U. Computer and work stations - available

704 DEAF/BLIND (~~SELF-CONTAINED~~ Separate Class)

704.01 Size - ~~400~~ 500 Square Feet

704.02 Design Capacity - ~~Approximately~~ 3 Students

704.03 Location
~~In a building with children of comparable chronological age; easy access to washroom facilities; convenient to transportation; in a quiet location that still allows for easy accessibility to other instructional areas.~~ Refer to 701.03.

704.04 Equipment Space and Facilities
A. Instructional Center
1. Teacher's desk and chair
2. Two library tables with three chairs each, or seating arrangements appropriate to the concomitant physical handicaps
B. Storage (may be common resource area)
1. One cart for audiovisual material
2. One storage locker, recessed if possible. This locker should be of sufficient size to hold braille writer, closed circuit television, typewriter, large print books and talking book machines.
3. One desk-high file with lock
4. Open shelving - 40 linear feet
C. Illumination - the room should be free from glare and direct sunlight. Artificial illumination fixtures should be wired for independent control. Foot candles of light should be measured throughout the room - 150-170.
D. Wall Surfaces - Colors should be chosen in a range of pastel shades; surfaces should have a dull finish and be easily washable
E. Chalkboard - gray or gray-green in color; 4 linear feet; display and map rail above, or as appropriate to the program
F. Tackboard - four linear feet, or as appropriate to the program
G. Tape recorder and listening station - one

H. Covered and grounded electrical receptacles located on all walls
I. Wastebaskets - two
J. Carpeting - solid color
K. Sink with hot and cold water
L. Typewriter - primary type - available
M. Projection and magnifying equipment - available
N. Toilet
O. Electrical power supply - three on each wall
P. Braille writer and other special equipment, as appropriate
Q. Computer and work stations - available

705 MILD ~~EDUCABLE MENTALLY HANDICAPPED~~ IMPAIRED (~~SELF CONTAINED~~ SEPARATE CLASS)

705.01 Size - ~~800~~ 750 Square Feet

705.02 Design Capacity - ~~Approximately 15 Students~~ Maximum of Twelve Students

705.03 Location
~~In a building with children of comparable chronological age, easy access to washroom facilities, and direct or convenient access to out of doors.~~ Refer to 701.03.

705.04 Equipment Space and Facilities
A. Instructional center
1. Teacher's desk and chair
2. Teacher aide's desk and chair
3. 12 desks and chairs, or combination desk-chairs, adjustable in height
4. Two library tables with six chairs for each
B. Storage
1. One cart for audiovisual material
2. Two metal storage lockers
3. One desk-high file
4. One four-drawer file with lock
5. 20 linear feet of open shelving
C. One full length mirror - should be designed to be covered
D. Chalkboard - 24 linear feet; display and map rail above
E. Tackboard - as much as possible; minimum of 20 linear feet
~~F. Facilities for darkening room~~
F. Covered and grounded electrical receptacles located on all walls
G. Sink with hot and cold water
H. Fire extinguisher and blanket
I. Phonograph - one
J. Tape recorder - available
K. ~~Electric~~ Clock---~~one~~
L. Typewriter - available
M. Wastebaskets - two
N. Carpeting
O. Audiovisual equipment should be available

P. Access to instructional areas/equipment conducive to teaching functional skills
Q. Computer and work stations - available

706 ~~TRAINABLE~~ MODERATE MENTALLY ~~HANDICAPPED~~ IMPAIRED (~~SELF CONTAINED~~ SEPARATE CLASS)

706.01 Size - ~~750~~ 850 Square Feet

706.02 Design Capacity - ~~Fifteen Students~~ Maximum of 12 Students

706.03 Location
~~Ground floor in a building with children of comparable chronological age when possible; easy access to washroom facilities; direct or convenient access to out of doors; H.V.A.C. system design will remove cold air from the floor during heating season.~~ Refer to 701.03.

706.04 Equipment Space and Facilities
A. Instructional center
1. Teacher's desk and chair
2. Teacher aide's desk and chair
3. ~~Six tables with chairs for pupil seating~~ Twelve desks and chairs or combination desk-chairs, adjustable in height
4. Two library tables with six chairs for each table
B. Storage
1. One cart for audiovisual material
2. Two metal storage lockers
3. One four-drawer file with lock
4. 20 linear feet of open shelving
C. Chalkboard - 20 linear feet; display and map rail above
D. Tackboard - as much as possible; minimum 20 linear feet
E. Facilities for darkening room
F. Electrical receptacles with protective covers on all walls
G. Sink with hot and cold water
H. Phonograph - one
I. Tape recorder - available
J. ~~Electric~~ Clock---~~one~~
K. Typewriter - available
L. Wastebaskets - two
M. Carpeting
N. Toilet
O. Instructional areas/equipment conducive to teaching functional skills (ie., kitchen facilities, laundry facilities and bathing facilities)
P. Doorways that are three-and-one-half feet wide and without thresholds
Q. One full length mirror - should be designed to be covered
R. Computer and work stations - available

707 PHYSICALLY HANDICAPPED (~~SELF-CONTAINED~~ SEPARATE CLASS)

707.01 Size - 1000 Square Feet

~~T. Refrigerator available for medications~~
~~U. Hot plate or stove available~~
~~V. Specialized equipment (such as handrails, adjustable seats and desks, tables of varying size to accommodate body clearance for wheelchairs, chairs on rollers, cots, portable reading racks, electric or manual typewriters, low chalkboards, standing table, relaxation chair, changing table, wheelchairs, walkers, parallel bars, posture mirror, floor mat, prone stander, ambulatory devices, rolls, wedges, therapy ball, eating, dressing and grooming aids, positioning aids, pressure relief devices, bolsters, corner chairs and standing bars recommended by the physician and or occupational therapist and or classroom teacher) shall be provided as specified in the Individualized Education Program.~~

O. Specialized equipment as required by the student's Individualized Education Program (IEP)

R. Computer and work stations - available

709 ~~HEARING IMPAIRED EDUCATION (SELF CONTAINED)~~ DEAF AND HARD OF HEARING (SEPARATE CLASS)

709.01 Size - ~~600~~ 750 Square Feet

709.02 Design Capacity - ~~Eight Children~~ 10 Students

709.03 Location
Should be located out of close proximity to ~~other classrooms~~ high noise level areas (e.g., gymnasiums, rhythm rooms, shops, noisy streets, railroad tracks and airports). Baffle of trees, embankments and/or turf should lie between building and possible noise sources. Refer to 701.03.

709.04 Equipment Space and Facilities

A. Housing structure

1. Walls of brick, four-and-one-half inches thick, plastered on both sides
2. Combination cork/peg boards - ~~ceiling to floor~~ one wall
3. Doors, solid-core type (air gaps sealed with rubber edging stripe)
4. Windowless or partially windowless (double pane) classroom
5. Ventilation system that causes little noise (ducts can be baffled and lined)
6. Toilet equipment should be silent in operation and accessible to students with disabilities
7. Minimum of 18 linear feet of chalkboard (natural slate or dark green) - magnetic chalkboards are optional
8. Sink, counter area are storage for books
9. Closets (walk-in type)
10. Space to house amplification equipment and audiovisual arts

B. Acoustic considerations
   1. Installation of wall-to-wall carpeting
   2. Acoustical plaster and tile, (appropriate amounts on walls and ceilings) or sound absorption tiles on each wall
   3. Drapes
   4. Sound levels of 30 to 35 db on the A scale of a sound level meter measured in the empty classroom with normal activity in adjacent areas; The signal-to-noise ratio in the occupied classroom is to be 20 to 30 db for optimal speech discrimination opportunities.

C. Instructional Center
   1. Teacher's chair and desk
   2. Student desks/chairs
   3. Round table - five foot
   4. One set of swastika style carrels for individualized instruction
   5. Movable screen covered with sound absorbing material

D. Lighting
   1. Controls in teaching area
   2. Incandescent lighting - 150 foot candles
   3. Projection shades for windows

E. Electrical power supply - two to three plugs on each wall; grounded system

F. Equipment
   1. FM system with individual aids for each student; loop installation
   2. 16 and 35 mm projector, available
   3. Slide projector, available
   4. Language master, available
   5. Opaque and overhead projectors
   6. Portable VCR, camera, film and playback/monitor system
   7. Tape recorder
   8. ~~Turntable for recordings - available~~ Record player
   9. Four-drawer file cabinets with locks
   10. Speech mirror - portable; at least 2 feet x 1 foot
   11. Visual fire safety signals
   12. One full length mirror
   13. Telephone trainer unit with teletype device for the deaf

G. Observation room equipped with amplification system, lock and one-way glass (entrance outside of classroom)

H. Computer and work stations - available

710 ~~VISUALLY IMPAIRED EDUCATION (SELF-CONTAINED)~~ BLIND AND PARTIALLY SIGHTED (SEPARATE CLASS)

710.01 Size - 750 Square Feet

710.02 Design Capacity - ~~Eight~~ 10 Students

710.03 Location
~~Ground floor in a building with children of comparable chronological age; easy access to washroom facilities; convenient to transportation; in a quiet location that still~~

707.02 Location
~~Ground-floor-in-a-building-with-children-of-comparable chronological-age;-easy-access-to-washroom-facilities;-direct or-convenient-access-to-out-of-doors;--Convenient-and-safe access-to-bus-loading-and-unloading-and-other-means-of transportation.~~ Direct or convenient access to out of doors. Refer to 701.03.

707.03 Design Capacity - 10 ~~Pupils~~ Students

707.04 Equipment Space and Facilities

A. Teacher's desk and chair
B. Teacher aide's desk and chair
C. Individual wheelchair cut-out tables for each student, where appropriate; two five foot round tables; some chairs depending on needs
D. Storage
   1. One cart for audiovisual material
   2. Two metal storage lockers
   3. One four-drawer file with lock
   4. Thirty linear feet of open shelving
   5. Adequate storage space for specialized equipment as required by the student's Individualized Education Program (IEP)
E. Restroom facilities (~~with-bathtub~~ bathtub, sink, toilet) to conform with ~~Vocational-Rehabilitation-requirements~~ the Uniform Federal Accessibility Standards (UFAS)
F. Doorways that are three-and-one-half feet wide and without threshold
G. Ramps and handrails, if needed
K. Non-skid floor surfaces
I. Electrical receptacles with protective covers on all walls
J. Wheelchair-accessible sink with hot and cold water
K. Washer and dryer
L. Student changing area
M. ~~Hot-plate~~ Stove and refrigerator, when appropriate
N. Convenient access to lunchroom suitable to the individual needs of students
O. Chalkboard - 40 linear feet; display and map rail above
P. Tackboard - as much as possible; minimum 20 linear feet
~~P. Facilities-for-darkening-room~~
Q. Carpeting
R. Phonograph - one
S. Tape recorder - available
T. ~~Electric~~ Clock - one
U. Typewriter - available
V. Wastebaskets - two
W. ~~Toilet~~ Computer and work stations - available

708 ~~PROFOUNDLY~~ SEVERE/PROFOUND MENTALLY ~~HANDICAPPED~~ IMPAIRED (~~SELF-CONTAINED~~ SEPARATE CLASS)

708.01 Size - ~~750~~ 1,000 Square Feet

708.02 Design Capacity - ~~Six-Pupils~~ 9 Students

708.03 Location

~~Ground-floor,-unless-elevator-assures-accessibility-to-other floors-and-there-is-ground-level-egress-on-the-floor-where-the classroom-is-located.--In-an-area-with-a-minimum-of-outside distraction,-such-as-traffic-or-hallway-noise,-with-easy-access to-a-"time-out"-room-or-isolation-area,-direct-or-convenient access-to-out-of-doors.~~ Refer to 701.03.

708.04 Equipment Space and Facilities

A. Instructional Center
   1. Teacher's desk and chair
   2. ~~Six~~ Nine desks and chairs or combination desk-chairs, adjustable in height
   3. Two or three round or rectangular work tables with chairs for pupil seating

B. Storage
   1. Two metal storage lockers
   2. One four-drawer file with lock
   3. Thirty linear feet of open shelving
   4. Adequate storage space for specialized equipment as required by the student's Individualized Education Program (IEP)
   5. One cart for audiovisual equipment

C. Chalkboard - 30 linear feet; display and map rail above

D. Tackboard - 20 linear feet

E. Covered and grounded electrical receptacles located on all walls

F. One full length mirror, designed to be covered

G. Carpeting

H. Non-skid floor surface

~~I. Windows---frosted,-or-with-lower-sections-constructed for-covering-or-made-of-plexiglass~~

I. Movable screens which can be secured for making two or three study cubicles

J. "Time-out" room - ~~125-to-200~~ 64 to 100 square feet, as described in the student's Individualized Education Program (IEP)
   1. ~~Stationary-couch~~ One bench or chair
   2. Means for monitoring audibly and visibly (ie., two-way mirror)
   3. Removal of existing locks
   4. Free from objects, materials and equipment

K. Phonograph - one

L. Tape recorder - available

M. Instructional areas/facilities to promote the teaching of functional skills, ie., stove, refrigerator, washer, dryer

N. Typewriter - available

O. Wastebasket - one

~~P. Intercom---ideally,-two-way-intercom-unit-connected-to administrative-offices~~

~~R. Toilet,-drinking-fountain-and-lavatories-appropriately equipped-with-safety-bars~~

P. Doorways that are three-and-one-half feet wide and without thresholds

~~allows for easy accessibility to other instructional areas.~~
Refer to 701.03.

710.04 Equipment Space and Facilities

A. Instructional Center
   1. Teacher's desk and chair
   2. Teacher aide's desk and chair
   3. Desks and chairs or combination desk-chair, movable and adjustable in height; of light neutral color and with a dull finish
   4. Two library tables with three chairs each

B. Storage
   1. One cart for audiovisual material
   2. One storage locker, recessed if possible. This locker should be of sufficient size to hold: braille writer, closed circuit television, typewriter, large print books and talking book machines (may be storage closet).
   3. One four-drawer file with lock, recessed if possible
   4. One desk-high file
   5. Open shelving - 40 linear feet

C. Illumination - the room should be free from glare and direct sunlight. Artificial illumination fixtures should be wired for independent control. Foot candles of light should be measured throughout the room: 150-170.

D. Environment must be barrier free in order to be conducive to physical mobility of students.

E. Facilities and equipment conducive to active physical education program shall be available.

F. Low-vision aids or other mechanical and/or electronic aids (e.g., braille writer, closed circuit television, talking computer)

G. Wall surfaces - colors should be chosen in a range of pastel shades; surfaces should have a dull finish and be easily washable

H. Chalkboard - gray or gray-green in color; 20 linear feet; display and map rail above

I. Tackboard - 20 linear feet

J. Tape recorder and listening station - one

K. ~~Covered and grounded electrical receptacles located on all walls~~ Electrical power source, two or three on each wall - covered and grounded

L. Wastebaskets - two

M. Carpeting - solid dark color

N. Sink with hot and cold water

O. Typewriters - two primary type

P. Projection and magnifying equipment - available

Q. Tangible apparatus - braillers, talking book machines, reading stands and racks and relief globes

R. Toilet

S. Computer and work stations - available

711 SPECIFIC LEARNING DISABILITIES (~~SELF-CONTAINED~~ SEPARATE CLASS)

711.01 Size - ~~750~~ 540 Square Feet

711.02 Design Capacity - ~~Approximately~~ Maximum of Twelve Students

711.03 Location
~~In a building with children of comparable chronological age; easy access to washroom facilities; and direct or convenient access to out of doors.~~ Refer to 701.03.

711.04 Equipment Space and Facilities
A. Instructional Center
1. Teacher's desk and chair
2. Teacher aide's desk and chair
3. Desks and chairs or combination desk-chairs, adjustable in height - eight
4. Two library tables with four chairs for each
5. Minimum of four individual learning stations

B. Storage
1. One cart to use for audiovisual materials
2. Two metal storage lockers
3. One desk-high file with lock
4. One four-drawer file with lock
5. Open shelving - 30 linear feet

C. Chalkboard - 30 linear feet; display and map rail above
D. Tackboard - minimum 20 linear feet
~~E. Facilities for darkening room~~
E. Movable screens - two or three (5 feet x 6 feet)
~~G. Folding cot - one~~
F. Covered and grounded electrical receptacles located on walls
~~I. Sink with hot and cold water~~
G. Phonograph - one
H. Tape recorder ~~and eight listening stations (junction boxes)~~
~~L. Primary typewriter - two~~
I. Wastebasket - one
J. ~~Electric~~ clock - one
~~O. Carpeting~~
K. ~~Micro~~-Computers and work stations - available
L. Two audio card readers
M. Overhead projector
N. Instructional television
O. Filmstrip projector - available
~~U. Exercise mat - available~~
~~V. Balance beam - available~~
~~W. Jump rope - available~~
~~X. Walking board - available~~
~~Y. Sand table - one~~
P. Painting easel - two
Q. Projector and screen - available

712 PRE-SCHOOL ~~HANDICAPPED (SELF-CONTAINED)~~ (SEPARATE CLASS)

712.01 Size - ~~1000~~ 750 to 800 Square Feet

712.02 Location

~~Ground-floor-in-a-building-with-non-handicapped-children-of comparable-chronological-age,-or-with-non-handicapped-children in-early-childhood-programs;-easy-access-to-washroom-facilities; direct-or-convenient-access-to-out-of-doors.~~ Refer to 701.03.

712.03 Design Capacity - ~~Eight-Pupils~~ 10 Children

712.04 Equipment Space and Facilities

A. Teachers' desks and chairs (one each for teacher and aide)
B. Two tables with chairs for pupil seating; carpet squares or low cushions for additional seating per child
C. Storage
    1. One cart for audiovisual material
    2. ~~Two-metal~~ Storage ~~lockers~~ cabinets
    3. One four-drawer file with lock
    4. 20 linear feet of ~~closed~~ shelving adjacent to instructional area
D. Restroom facilities (including changing table and cots) to conform with Vocational Rehabilitation requirements
E. Doorways that are three-and-one-half feet wide and without threshold
F. Ramps and handrails, if needed
G. Non-skid floor surfaces
H. Electrical receptacles with protective covers on all walls
I. Sink with hot and cold water
J. Chalkboard - 30 linear feet~~;-display-and-map-rail-above~~
K. Tackboard - as much as possible; minimum 20 linear feet
L. Facilities for darkening room
~~M. Carpeting~~
M. Phonograph - ~~one~~ available
N. Tape recorder - available
O. ~~Electric~~ Clock~~---one~~
P. Typewriter - available
Q. Wastebaskets - two
~~S. Two-or-three-movable-screens-(5'-x-6")-covered-with sound-absorbing-material~~
~~T. Full-length-mirror~~
~~U. Flannel-board~~
R. Projector and screen - available
S. Instructional television - available
T. VCR - available
U. Computer and work stations - available

713 GIFTED EDUCATION ~~(SELF-CONTAINED)~~ (SEPARATE CLASS)

713.01 Size - 750 Square Feet

713.02 Design Capacity - 15 Students

713.03 Location

~~In-a-building-with-children-of-comparable-chronological-age; easy-access-to-washroom-facilities;-direct-or-convenient-access to-out-of-doors.~~ The classroom should be located in close proximity to classrooms of age equivalent nonexceptional peers.

713.04 Activities

Individuals and groups engaging in study and work activities; experimentation; problem solving situations; and such activities as using educational media aids and technology, using a variety of reference materials, developing cultural skills and displaying pupils' work.

713.05 Equipment Space and Facilities

Ample space, movable furniture and equipment and well-designed storage areas are essential.

A. Chalkboards, bulletin boards and other display areas: As much as possible; a minimum two-thirds of available wall space
   1. Chalkboards and bulletin boards should have map rails installed above.
   2. The bottom of the display area should be at the eye level of the student when seated.
B. Pupil wardrobe - accessible
C. Storage space
   1. Open and closed adjustable shelving of various heights and depths for a variety of sizes of construction paper, charts and large format books - 30 linear feet of each
   2. Storage for teacher's personal belongings
   3. Filing space for instructional material and supplies equivalent to two (2) four-drawer, legal size file cabinets
D. Work space - two square feet per child with shelving beneath. Sink equipped with mud trap and hot and cold water.
E. Teacher's combination desk-table and chair
F. Two conference-type tables and chairs
G. Desks and chairs, or combination chair-desks
H. ~~Micro-~~ Computers and work stations - available
I. Electrical receptacles located on all walls, covered and grounded
J. A minimum of one movable screen
K. Wastebasket - one
L. Clock
M. Phonograph

714 ~~RESOURCE SERVICES (REGULAR PROGRAM SUPPORT)~~ REGULAR EDUCATION - PART TIME

Students with mildly ~~handicapping~~ disabling conditions or gifted students are assigned to ~~a resource special education class~~ regular education, part time programs, for one to three hours daily. The ages of students in this type of room will vary, usually spanning more than one grade level.

714.01 ~~Resource Classroom~~ Regular Education - Part Time

714.011 Size - 600 Square Feet

714.012 Design Capacity - 15 ~~to 20~~ Students

714.013 Location

~~As central as feasible to the regular classrooms that the resource room will serve; also convenient to instructional materials center.~~ Refer to 701.03.

714.014 Equipment Space and Facilities

A. Instructional center
   1. Teacher's desk and chair
   2. Student desks and chairs or combination desk-chairs, adjustable in height
   3. Library table with eight chairs
   4. Typing stand and typewriter

B. Storage
   1. One cart for audiovisual material
   2. One metal storage locker
   3. One desk-high file with lock
   4. Two four-drawer files with lock
   5. 20 linear feet of closed and open shelving

C. One full length mirror designed to be covered

D. Chalkboard - 20 linear feet; display and map rail above

E. Tackboard - as much as possible; minimum 20 linear feet

~~F. Facilities for darkening room~~

F. Covered and grounded electrical receptacles located on all walls

G. Classroom (including equipment and facilities) must be ~~modifiable~~ modified in order to accommodate student needs as specified in the Individualized Education Program (IEP).

H. Computers and work stations - available

715 PROFESSIONAL SUPPORT STAFF

Services provided by professional support staff, such as school psychologists, counselors, audiologists, speech/language pathologists and related services specialists may provide itinerant or full-time services to the students. If itinerant services are provided, areas of the school may be used by professional support staff on a part-time basis with adequate spaces being made available. Those services which are provided on a full-time basis require an individual full-time room assignment. ~~Since need may fluctuate, other areas of the school may be used on a partial basis for this purpose as long as adequate spaces are provided.~~

715.01 ~~Itinerant~~ Professional Support Staff Facilities

715.011 Size - ~~150-200~~ 350 Square Feet

715.012 Design Capacity

~~One to five~~ Maximum of 10 students and, in some cases, parents.

715.013 Location

Refer to 701.03.

~~A. Preferably, near the general administration and public entrance area of the building~~

~~B. Location should permit conferences with privacy~~

~~C. Easy access to student records~~

715.014 Activities

Individual and group guidance; counseling and conferences with pupils, parents and teachers; individual evaluations; individual and group instruction.

715.015 Equipment Space and Facilities

A. Desk and chair
B. Conference chairs
C. Shelving - 10 to 15 linear feet
D. Tackboard - 4 to 6 linear feet
E. Chalkboard - 4 to 6 linear feet
F. Storage for personal belongings
G. One four-drawer file cabinet with lock for each professional ~~permanently~~ assigned full-time to facility
H. Additional file space for other professionals providing itinerant services
I. ~~Itinerant~~ Professional support staff facilities, including equipment, must be ~~modifiable~~ modified in order to accommodate student needs as specified in the individualized education program.
J. Telephone with one or more outside lines
K. Computers and work stations - available

800 VOCATIONAL EDUCATION FACILITIES

When planning facilities of a service area program for Vocational-Technical Education, refer to the Bureau of Vocational Technical and Adult Education, Handbook on Planning School Facilities Vocational Education Supplement. The assistance of specialists in agricultural education should be secured in planning facilities.

801 ~~VOCATIONAL-AGRICULTURE~~ AGRICULTURAL EDUCATION

Factors influencing the location of facilities include: Isolation from quiet areas of the building; location which provides easy delivery of instructional supplies, materials and equipment including farm machinery; ~~location convenient to industrial arts or other vocational areas;~~ location which permits isolation from remainder of the building for after-school use.

801.01 ~~Instructional~~ Classroom Space

801.011 Size

Base preliminary determination of area upon allotment of ~~35~~ 30 to 40 square feet per student (minimum of ~~700~~ 600 square feet), exclusive of storage space. ~~If the instructional space is to be used for Agricultural Sales and Service course, it should contain a minimum of 1050 square feet. To more accurately determine area, trial room layouts should be made using scale templates representing furniture and equipment with scale drawings of floor and wall elevations.~~ If classroom space is based on the minimum of 30 square feet per student (600 square feet total), an additional 200 square feet should be provided for a demonstration and work area-wet sink, etc.

801.012 Design Capacity - ~~25~~ 20 Students

801.013 Location

A. Convenient or direct access to shop and office
B. Ground floor, convenient to a building entrance
~~C. Permit maximum controlled natural light~~

801.014 Activities

Lecture; demonstration; experimentation; discussion; viewing slides, films and other projected materials; writing or drawing on chalkboard and tables; displaying students' work; storing instructional materials and supplies.

801.015 Equipment Space and Facilities

A. Chalkboard - 20 to 24 linear feet; display and chart rail above
B. Tackboard - as much as possible; minimum eight linear feet; height four feet; display and chart rail above. Locate one section adjacent to entrance.

C. ~~Two~~ Student tables (minimum of 10 - 24 inches x 60 inches x 30 inches) and chairs
D. Teacher's desk and chair
E. Demonstration lab table with wet sink, gas and electric - 24 inches x 60 inches x 36 inches
F. Storage
~~1. Legal-size, four-drawer file cabinets (minimum of two)~~
~~2. Letter-size, four-drawer file cabinet~~
1. Magazine rack
2. Minimum of 40 linear feet of adjustable shelving
3. Record book holder
G. Duplex electrical outlets on all walls
H. Facilities for light control to permit use of visual aid
I. Refer to the "~~Vocational-Agriculture~~ Agricultural Education Program Guide" for list of equipment

801.02 Agricultural Mechanics ~~Shop~~ Laboratory

801.021 Size
Minimum of ~~3000~~ 2400 square feet. Base preliminary determination of area on allotment of ~~150 to 175~~ 120 to 150 square feet per student, exclusive of storage and tool room space. ~~If shop is to be used by Agriculture Science students and students from one of the Agri-business courses such as Agricultural Machinery Occupations, it should contain a minimum of 4200 square feet. To more accurately determine the area, trial room layouts should be made using scale templates representing furniture and equipment with scale drawings of floor and wall elevations.~~
~~NOTE: The assistance of specialists in vocational agriculture should be secured in planning these facilities.~~

801.022 Design Capacity - 20 Students

801.023 Location
A. Convenient access to ~~instructional~~ classroom space and instructor's office
B. Direct access to service drive

801.024 Activities
Construct and repair agricultural equipment and machinery; weld; finish and paint equipment; operate power machinery or equipment; store tools, ~~raw~~ materials and partially completed projects.

801.025 Equipment Space and Facilities
A. Varies with program offered in shop
B. Chalkboard and tackboard - six linear feet of each
C. Windows should be at least 42 inches above the floor to permit installation of equipment along wall and electrical outlets above work benches

D. Floor or ceiling electrical grid system for 110 and 220 volt power to various machines with master control switches
E. Overhead door from service drive (minimum 14 feet ~~12-to-14'~~ wide and 10 feet high)
F. Storage for hand tools, ~~consumable-raw-materials-and supplies~~ may be provided in separate rooms or in cabinets and racks within the ~~shop~~ lab. ~~Area~~ required - 700 to 800 square feet.
G. Fire extinguishers (per state Fire Code)
H. Work benches, wooden (minimum of 30 linear feet)
I. Work benches, metal (minimum of 40 linear feet)
~~J. Storage-rack-for-metal~~
~~K. Storage-rack-for-lumber~~
~~L.~~ J. Floor drain near machinery repair area
~~M.~~ K. Half-circle wash fountain installed in shop
~~N.~~ L. Emergency eye wash
~~O.~~ M. Refer to the ~~Agriculture-Mechanics~~ "Agricultural Education Program Guide" for a list of equipment.

801.03 Agricultural Mechanics Storage Area

801.031 Size - Minimum of 600 Square Feet

801.032 Location
A. Adjacent to the laboratory area and machinery storage area
B. Area should be protected from the weather, but not necessarily heated

801.033 Activities
Storage of instructional materials and consumables.

801.034 Facilities
A. Storage rack for metal
B. Storage rack for lumber

~~801.04 Storage-Room~~

~~801.041 Size---100-to-150-Square-Feet~~

~~801.042 Location~~
~~A. Convenient-or-direct-access-to-the-instructional space~~
~~B. Direct-access-to-the-office~~

~~801.043 Activities~~
~~Storage-of-instructional-supplies,-equipment,-materials and-visual-aids.~~

~~801.044 Equipment-Space-and-Facilities~~
~~Adjustable-shelving-of-various-heights-and-depths.~~

801.04 Machinery ~~Storage Lot~~ and Material Storage Area

801.041 Size - Minimum of 600 ~~to 1000~~ Square Feet

801.042 Location
~~Convenient to shop entrance and service drive.~~ Adjacent to the lab with direct access through the overhead lab door.

801.043 Equipment Space and Facilities
A. Macadam base sloped for drainage
B. Surrounded by chain link fence at least seven feet high
C. Double gate entrance, minimum of ~~12 feet to~~ 14 feet wide

~~801.05 Restrooms - Boys and Girls~~

~~801.051 Size~~
~~50 to 100 square feet each, larger if lockers are included.~~

~~801.052 Location~~
~~Convenient to both instructional space classroom and shop lab areas.~~

~~801.053 Equipment Space and Facilities~~
~~A. Boys' toilet equipped with commode, urinal and lavatory~~
~~B. Girls' toilet equipped with commode and lavatory~~
~~C. Wall mirror~~
~~D. Floor drain~~
~~E. Storage cabinet for cleaning supplies~~

801.05 ~~801.06~~ Greenhouse

801.051 ~~801.061~~ Size - Minimum of 22 feet x 48 feet
~~A. Starting and growing house - a minimum of 1920 square feet, glazed area~~
~~B. Potting, storage and sales area - a minimum of 2560 square feet~~
~~C. Lath house - a minimum of 1920 square feet~~

801.052 ~~801.062~~ Location
Convenient access to other program facilities.

801.06 Instructor's Office and Storage Area

801.061 Size - ~~100 to 150~~ Minimum of 200 Square Feet

801.062 Location
Convenient or direct access to shop and ~~instructional space~~ classroom area.

801.063 Equipment Space and Facilities
A. Teacher's desk and chair
B. One or two conference chairs

C. Storage
1. Letter size, four-drawer file cabinet
~~2. Open or closed shelving---20 to 30 linear feet~~
2. Legal size, four drawer file cabinets (minimum of two)
3. Adjustable shelving of various heights and depths

D. Minimum of two duplex electrical outlets

802 MARKETING EDUCATION FACILITIES GUIDE ~~AND DISTRIBUTIVE EDUCATION~~

802.01 Instructional Space

802.011 Size
The size of the facility is driven by the curriculum. The Marketing Education curriculum calls for small group work areas, project areas, and regular classroom instruction space. The suggested average space is 40 - 45 square feet per student (1000 - 1125 square feet). ~~The size of this facility will be dependent upon the curriculum. Each curriculum places~~ emphasis on different elements of Distributive Education. The suggested average space is 45 square feet per student (1000 ~~square feet) for the classroom, 200 square feet for office space and 100 square feet for storage.~~

802.012 Design Capacity - 25 Students

802.013 Location
The most desirable location for a facility will ~~usually~~ be found along a main ~~floor~~ corridor receiving maximum student exposure.

802.014 Activities
Learning activities will include role playing; realistic job situations; demonstrating job related skills; observing and evaluating films; job activities and processes; independent study in an area; ~~buzz sessions;~~ panel presentations and discussions; and conferences.

802.015 Equipment Space and Facilities
A. Trapezoid-shaped tables with chairs
B. Chalkboards and bulletin boards
C. Exterior display window
D. File cabinet
E. Electronic cash register with counter
F. Calculators, 1 per student, per class
G. Teacher desk and chair
H. Bookcase
I. 1 - 2 mannequins
~~A. Tables and chairs~~
~~B. Pegboards, tackboards and chalkboards~~
~~C. Display cases~~
~~D. Exterior display window~~
~~E. File cabinets~~
~~F. Cash register~~
~~G. Check out counter~~

~~H. Calculators~~
~~I. Shelving~~
~~J. Telephone~~
~~K. Sign-press-machine~~
~~L. Storage-cabinet~~
~~M. Typewriter~~
~~N. Mannequins~~
~~O. Teacher's-desk-and-chair~~
P. Bookcase
Q. Self-computing electronic scales
R. Microcomputer
S. Refer to the "Marketing and Distributive Education Program Guide" for a list of additional equipment.

802.02 Office

802.021 Size
Because of the Marketing Education teachers' daily contact with the business community, an office connected to the classroom is necessary. This office should be 200 - 250 square feet and should accommodate 1 - 2 teachers. A clear window or partition should separate the office from the classroom.

802.021 Location
Direct or convenient access to instructional space.

802.023 Equipment Space and Facilities
A. Teacher's desk and chair
B. Telephone
C. One or two conference chairs
D. Computer with printer
E. Two letter -size four-drawer file cabinets
F. Twenty to thirty linear feet of shelving, open or closed

802.03 Storage

802.031 Size
A storage closet of at least 100 square feet should be attached to the classroom. Some shelving should be built in.

802.032 Location
Direct or convenient access to instructional space or school store.

802.032 Equipment Space and Facilities
Adjustable shelving throughout.

802.04 School Store

802.041 Size
If a retail lab is part of the marketing education program, spaces from 150 square feet to 1500 square feet can be utilized, depending on the type of store and planned operation. Contact the State Supervisor for Marketing Education for assistance in planning a school store.

802.042 Location
The most successful location would be on a high traffic corridor, attached to the marketing education classroom and office.

802.043 Equipment Space and Facilities
Contact the State Supervisor for Marketing Education for specs.

802.044 Activities
Stock and operate a retail enterprise, selling items identified as appropriate by school survey and the administration, teacher and advisory committee.

803 DIVERSIFIED COOPERATIVE TRAINING

803.01 Instructional Space

803.011 Size
The size of this facility will be dependent upon the type of furniture and equipment contained; 30 to 35 square feet per student.

803.012 Design Capacity - 25 Students

803.013 Location
The most desirable location for a facility will usually be found along a main floor corridor receiving maximum student exposure.

803.014 Activities
Learning activities will include role playing; realistic job situations; demonstrating job related skills; observing and evaluating films; job activities and processes; independent study in an area; ~~buzz-sessions;~~ panel presentations; and discussions and conferences.

803.015 Equipment Space and Facilities
A. Tables and chairs
B. ~~Pegboards,~~ Tackboards and chalkboards
~~C. Display cases~~
C. File cabinets
D. Calculators
E. Telephone
F. Storage cabinet
G. Typewriter
H. Teacher's desk and chair
I. Bookcase
J. Microcomputer
K. Refer to the "Diversified Cooperative Training Program Guide" for a list of additional equipment.

804 VOCATIONAL HEALTH OCCUPATIONS

One factor influencing the location of the facilities would be whether the location permits parking and easy access for bus and auto transportation to clinical facilities.

804.01 Instructional Space

804.011 Size
Base preliminary determination of area upon allotment of 25 to 30 square feet per student.

NOTE: If classroom/laboratory area is combined, 75 to 100 square feet per student is needed.

804.012 Design Capacity - 25 Students/Classroom

804.013 Location
Convenient to laboratory and office.

804.014 Activities
Lecture; large and small group discussion; independent study; utilization of audiovisuals; chalkboard demonstrations; role playing and similar learning strategies.

804.015 Equipment Space and Facilities
A. Chalkboard - 8 to 12 linear feet
B. Tackboard - 4 feet by 4 feet
C. Student chairs with arm rests, or 30 inches x 60 inches library tables and chairs
D. Teacher's desk and chair
E. Equipped ~~demonstration~~ simulation/patient care units with provision for privacy ~~curtains, bed rail, over-bed table and bedside chair~~

NOTE: If instructional space/laboratory area are combined, a demonstration unit is not needed.

F. Storage
1. Legal size, four-drawer file cabinet
2. Magazine rack
3. Adjustable shelving
4. Cabinet storage areas
5. Open shelves within classroom

G. Electrical outlets to permit use of equipment at demonstration unit and for small or large group viewing of audiovisuals
H. Provisions ~~Facilities~~ for light control to permit use of visual aids
I. Sink with hot water ~~at patient care demonstration unit~~
J. Fire extinguisher (per state Fire Code)
K. Refer to the "Health Occupations Program Guide" for a list of equipment for specific programs.

804.02 Health Occupations Laboratory

804.021 Size
Base preliminary determination of area on allotment of 75 to 100 square feet per student in the following occupational areas.
A. Dental assistant
B. Practical nursing
C. Health assistant

D. Nursing assistant
E. Medical assistant
F. Medical lab assistant
G. Dental lab assistant
H. Respiratory therapy technician
I. Pharmacy technician
J. Medical transcriptionist
K. Surgical technician
L. Opthalmic technician

NOTE: The assistance of specialists in ~~vocational~~ health careers and occupations should be secured in planning these facilities.

804.022 Design Capacity - 25 Students/Lab

804.023 Location
A. Convenient access to instructional space and instructor's office
B. Provision for room privacy during patient care/simulation procedures

804.024 Activities
Learning experiences in patient care and recording, dental/medical office procedures and related activities. (Depending upon health occupation being taught).

804.025 Equipment Space and Facilities
A. Equipment should be comparable to that used in the health occupations field.
B. The equipment and work stations will vary with the occupational objectives of the program.
C. Windows should be high enough to permit installation of equipment along the wall.
D. Consultation should be made with Vocational Health Occupations Education Service for equipment needs of various occupational areas.
E. Sink and lavatory should have hot and cold water.
F. Counter top should have work space with cabinet storage.
G. Storage room should have locked storage ~~of~~ for visual aids, equipment and supplies.
H. Equipment supplied should include dressing room and student lockers.
I. Refer to the "Health Occupations Program Guide" for a list of equipment.

804.03 Instructor's Office/Station

804.031 Size - ~~125~~ 100 to 150 Square Feet

804.032 Location
Direct access to the laboratory, instructional space and corridor.

804.033 Equipment Space and Facilities
A. Teacher's desk and chair

B. Conference chairs - two
C. Four-drawer file cabinet with lock - one
D. Mirror

804.04 Resource/Study Area

804.041 Size - 225 Square Feet

804.042 Location
Can be separate room or can be part of laboratory.

804.043 Equipment and Facilities
A. Round tables or library tables with 10 chairs each - two
B. Bookshelves or bookcases along walls
C. Storage cabinets for visual aids and independent study materials
D. Bookkeeping drawer and forms for book borrowing
E. Magazine display rack for journals, pamphlets, periodicals and other materials

805 HOME ECONOMICS - GRADES 9-12

Consumer and homemaking ~~home economics~~ education is a group of home economics instructional programs that prepare individuals at all educational levels for the occupation of homemaking, emphasizing the acquisition of knowledge and the development of understanding attitudes, standards, values, and skills relevant to individual and family life as well as the world of work. They also emphasize the improvement of the home and the quality of individual and family life and enhance potential employability. These programs prepare individuals for the multiple roles of homemaker and wage earner. Programs include, but are not limited to, instruction in consumer education, food and nutrition, family living and parenthood education, child growth and development, health and safety, housing and home management (including resource management) and clothing and textiles. Course offerings include: Adult Roles and Functions; Steps, Parenting; ~~(surviving today's experiences and~~ problems successfully) and ~~or~~ special interest courses.

805.01 Consumer & Homemaking Instructional Space

805.011 Size
The home economics facility consists of one, two or more rooms. Regardless of the number of rooms, space is provided for carrying out a comprehensive curriculum. In small high schools, a single room with one teacher is used for teaching all aspects of the curriculum. If more than one teacher is currently employed, or if it is anticipated that in the near future more than one teacher will be needed, sufficient rooms are included in the original plan for meeting needs. Regardless of the number of rooms in a facility, each room is used for teaching more than one area of consumer and homemaking instruction.

A. One all-purpose room shall be designed for a one-teacher department. Space and equipment for teaching textiles and clothing, nutrition and foods, housing/home furnishings, parenting and child development, family living, management and consumer education. The total amount of space needed is 95-100 square feet per student and is designed to include the following areas:
   1. Foods Laboratory - 45 square feet per student (minimum of 900 total square feet). See Section 805.021 for specialized equipment and facilities requirements.
   2. Clothing Laboratory/Multi-purpose Room - 50 square feet per student (minimum 1000 total square feet). See Sections 805.04 and 805.05 for specialized equipment and facilities requirements. Also, includes space and equipment for:
      a. Storage for teaching materials, supplies, and student references
      b. Teaching center
      c. Display case

B. Two multi-purpose rooms shall be designed for a two or more teacher department
   1. Room one consists of:
      a. Space and equipment for teaching foods and other instructional areas listed above - 55 to 60 square feet per student
      b. Storage for teaching materials, student projects, supplies and references
      c. Teaching center
   2. Room two consists of:
      a. Space and equipment for teaching clothing and other instructional areas listed above - 55 to 60 square feet per student.
      b. Storage for teaching materials, student projects, supplies and references.
      c. Teaching center with conference/office area of 150 to 200 square feet.
      d. Display cases of 24 square feet.

   Per each additional teacher, there should be classroom space of 625 to 800 square feet and conference/office area of 50 square feet.

A peripheral arrangement with a minimum of fixed equipment or furnishings extending out into the room promotes flexibility in the use of space. Equipment is arranged in relation to point of use to prevent congestion. Allowance between tables is five feet for students to pull out chairs and be seated and to permit instructor supervision.

805.012 Design Capacity - 20 Students (Lab) 25 Students (Classroom)

805.013 Location

Facilities should be located on the ground floor, preferably near an outside entrance for:

A. Convenient delivery of groceries and instructional materials
B. Convenient installation and removal of large equipment
C. Easy accessibility for physically handicapped persons
D. Easy accessibility for preschool age children and their parents
E. Convenient entry for adult students and other persons seeking help with home-related problems

NOTE: In multi-teacher facilities, rooms adjacent to each other tend to unify the program by allowing for ease of communication, sharing of equipment and exchanging rooms for instruction. In schools with several rooms, rooms on both sides of the corridor make for a more compact facility than a row of rooms the length of the corridor.

805.014 Activities

Viewing slides, films and other projected materials; class discussions; lectures; demonstrations; individual, small or large group activities such as vocational youth organization activities; selecting, planning and evaluating student projects; preparation of teaching materials and planning of program activities.

805.015 Equipment Space and Facilities

A. Provisions are made for blinds, shades and/or draperies at the windows.
B. Window sills are located 40 inches or higher above the floor when storage cabinets are to be installed along that wall.
C. Electrical needs:
    1. A separate electric control panel for the facility is located in or adjacent to the home economics department.
    2. Sufficient grounded electrical outlets are located near the point of use and will accommodate the use of many pieces of equipment at one time.
    3. Ample switches and outlets are provided on each wall in each room.
D. Plumbing needs:
    1. Adequate and properly located plumbing connections are provided for the equipment.
    2. A continuous supply of hot water is provided. A separate hot water heater and water softener may be needed.
E. Sufficient space is provided for easy movement of students and instructor.
F. The major floor area of each room is free of heavy or permanently fixed equipment to allow for flexible room arrangement.
G. Doors are placed to prevent interference with traffic patterns.
H. Chalkboard - minimum of 8 linear feet per room.
I. Bulletin board - minimum 15 square feet per room.

J. Tables and chairs for seating of entire class. Can be rearranged for small or large groups and for demonstrations as needed. (Desk/chairs may be used for non-laboratory classes).

K. Storage needs - Both general storage and storage within the instructional areas are provided. The two most commonly used types of storage arrangements are: (1) the separate room and (2) cabinets and/or open shelves within the classroom. Some advantages to the separate storeroom are: it leaves more wall space within the classroom, and it frees floor space for flexible arrangement when items not in use are placed in the storeroom. A combination of the two types is desirable with a separate room for storage of large equipment which is not used frequently, and cabinets in the classroom for student items, small equipment and frequently used teaching materials.

1. Shelving is conveniently spaced and/or adjustable to fit the size and shape of equipment to be stored, such as portable sewing machines, reference books, audiovisual equipment and small equipment items.
2. Drawers are of a depth to serve the materials or equipment to be stored.
3. Mobile base cabinets provide additional work space and allow for more flexibility in room arrangement.
4. Heavy articles are stored at a carrying level.
5. Movable trays or pullout sections are used instead of shelves to facilitate removing articles.
6. Total amount of storage space is expanded by using items such as "Lazy Susan" shelves, divided drawers, vertical shelves and stairstep shelves.
7. Closed storage space is provided for items that need to be protected, are not used frequently or may detract from the appearance of the room.
8. Cabinets with locks are provided for storage of items such as electrical appliances, portable sewing machines, food and audiovisual equipment.
9. Storage units are located near the department's entrance for temporary storage of students' books and personal belongings.
10. Storage space is provided for cleaning supplies and equipment.
~~11. Refer to the "Consumer and Homemaking Program Guide" for a list of equipment.~~

805.016 Teacher/Conference Area

This center may be located in a ~~designed~~ designated area of the all-purpose room or in a separate room. A separate room is desirable when there are two teachers and is essential for three or more teachers. If a separate center is necessary, it should be accessible from all rooms in the home economics facility. Equipment needed follows.

A. Teacher's desk and chair (1 each per teacher)
B. Lockable storage for teachers' belongings

C. Open and closed adjustable shelving - minimum 30 linear feet
D. Four-drawer file cabinet, one to two per teacher
E. An electrical outlet needed by each teacher's desk
F. Room size - 125 to 150 square feet. For each additional teacher add 50 square feet.

805.02 Nutrition and Foods Specialized Equipment and Facilities

805.021 Equipment Space and Facilities

A. Kitchen units arranged in different patterns (U-type, L-type, one wall, island, corridor) to simulate home conditions: four to six. One should be planned for demonstration purposes and include an adjustable overhead mirror. Unit kitchens are arranged for easy supervision by the teacher. Upper peninsular cabinets and range hoods that block the teacher's view are avoided.
   1. Each unit kitchen consists of: double sink, range, base and wall cabinets, tables, chairs and 10-12 linear feet of work surface, excluding sink and range.
   2. Twenty-four to thirty inches of base cabinets is recommended at the left of each range and left and right of the sink; also allow space for a mixing center.
   3. The sink is located between the range and mixing centers in each unit.
   4. A waste disposal is included in each unit.
   5. Twenty-four to thirty inches of counter work space is provided for each student working in a unit kitchen. Adequate storage for basic equipment and supplies is located in each kitchen unit with special equipment and food supplies located nearby.
   6. Tables and chairs are adjacent to the kitchens for serving purposes.
   7. Exhaust ducts and/or range hoods have fans to pull odors and fumes out of the room.
B. At least one 48" X 72" cabinet with adjustable shelves is needed for storing extra supplies, equipment and classroom materials.
C. A variety of cabinet and counter materials, range and refrigerator models and fuels should be used.
D. A non-porous floor covering and finish for walls in unit kitchens should be used.
E. A minimum of three electrical outlets per kitchen unit.
F. Refrigerators with freezer compartments, accessible to kitchen units: One per each two kitchen units. 24 inches to 36 inches of counter space should be provided adjacent to the latch side of each refrigerator.
G. A separate freezer is desirable if used extensively as a part of the foods curriculum.
H. One portable or built-in dishwasher.
I. One to two microwave ovens.
J. Fire extinguisher, blanket and first aid kit.

~~K. Refer to the "Consumer and Homemaking Program Guide" for an additional list of equipment.~~

805.03 Laundry Area

805.031 Equipment Space and Facilities

A. Automatic washer and dryer (gas dryer must be vented to outside)
B. Sink for stain removal
C. Thirty-six inches of counter space
D. Base and wall cabinet for storage
E. Locate in a space which allows for class demonstrations

805.04 Textiles and Clothing Area

805.041 Equipment Space and Facilities

A. One sewing machine per two students. These may be a combination of cabinet-type and portable (which may be stored when not in use).
   1. Each sewing machine and chair/stool provides a minimum of three feet for pull out space.
   2. The facility is planned so that sewing machines can be stored and the area is available for multiple uses.
   3. A grounded electrical outlet is available for each machine.
B. Multi-purpose tables, 28 inches x 42 inches x 60 inches - minimum of five feet between tables
C. Multi-purpose chairs - one per student
D. Pressing area - one for each six to eight students. Includes:
   1. Ironing boards
   2. Steam irons
   3. A variety of small pressing equipment, such as seam roll, sleeve board and tailor's ham
   4. Grounded electrical outlet in each pressing area
E. Full length triple mirror
F. A fitting stand
G. Private space for the fitting of student garments
H. Lockable storage
   1. Cabinets for tote trays located near the entrance. One tote tray (4 3/4 inches x 12 inches x 18 inches) per student. Top of upper tote tray should not be more than 60 inches from the floor.
   2. Cabinets or closet with adjustable rods for hanging garments. Allow four to six linear feet.
   3. Cabinets or walk-in closet for the storage of equipment, samples, portable machines and other materials.
I. A running water source is provided
J. Refer to the "Consumer and Homemaking Program Guide" for an additional list of equipment.

805.05 Multi-purpose Area

For instruction in the areas of housing and home furnishings, parenting and child development, personal and family relations, family health, management, consumer education and related subjects.

805.051 Equipment Space and Facilities

A. A carpeted area
B. A bathroom
   1. Tub/shower
   2. Sink and mirror
   3. Toilet
C. Easy access to (or direct) outside entrance
D. A variety of equipment, furnishings and accessories, such as living center furniture (sofa, chair, tables, lamps and pictures); roll-away bed; play pen; baby bed; high chair; bookcase; vacuum cleaner and attachments; and play equipment
E. Window(s) with draperies
F. Low, movable storage cabinets with shallow, open shelves for play supplies, equipment and children's personal belongings
G. Refer to the "Consumer and Homemaking Program Guide" for an additional list of equipment.

Occupational home economics programs are designed to prepare students for employment in occupations utilizing the knowledge and skills in one or more of the areas related to home economics. The programs prepare persons for employment at entry or advanced levels as well as assist in the updating of skills or retraining of those already in the labor force. Jobs that relate to home economics are basically those that produce services. However, some jobs involve the production and distribution of goods. Program offerings include, but are not limited to, child care services; fashion management, production and services; food management, production and services; furnishings and interior services; management services; and hospitality services; as well as interdisciplinary programs such as home-based employment and care services.

805.06 Food Management, Production and Services (Occupational)

805.061 Size

Approximately 1940 to 2540 square feet. Foods laboratory to provide work stations for 20 students - 1440 square feet. Dining area to accommodate approximately 40 persons at 14-16 square feet per person (can serve as classroom space also) - 600 square feet. Dry storage of food supplies - 200 square feet. Dressing, restroom and locker facilities - 300 square feet.

805.062 Design Capacity - 20 Students

805.063 Location

Ground level, readily accessible to receiving entrance. Dining area should have an outside entrance if it is to be open to the public. The foods laboratory should be located on an outside wall or in a single story area to allow installation of exhaust fans.

805.064 Activities

Viewing slides, films and other projected materials; class discussions, lectures and demonstrations; individual and small or large group activities; instruction in planning, selecting, storing, purchasing, preparing and serving quantity food and food products; nutritive values; safety and sanitation precautions; use and care of commercial equipment; serving techniques, special diets and management of food establishments.

805.065 Equipment Space and Facilities

A. Foods laboratory to provide work stations for 20 students, including but not limited to preparation areas for meats, entrees, salads, vegetables, sandwiches, beverages and baked, fried and broiled foods. Stainless steel tables are utilized for work areas.
B. Dining area - 14 to 16 square feet per person. Can be used as instructional area. Seating accommodates every student enrolled and allows for dining service for customers. Additional space is necessary if the facility is to accommodate banquets.
C. Dry storage with temperature and humidity controls. Equipped with locks and located near delivery entrance. Shelving is adjustable.
D. Storage for cleaning supplies and equipment, located away from food preparation center
E. Storage for equipment and supplies
F. Refrigerated storage. Both freezer and refrigerator should be placed outside storeroom but adjacent to it where it is accessible to work areas.
G. Grounded electrical appliances with adequate heavy duty circuits to allow operation of more than one piece of equipment at a time. Provide a sufficient number of conveniently located outlets.
H. Dishwashing area located near the dining area. Includes a commercial dishwashing machine and a three-compartment stainless steel sink.
I. Major traffic aisles at least five feet wide; three feet between work tables and equipment, except for ovens or kettles, where the aisle should be three-and-one-half to four feet.
J. A variety of equipment reflective of the food service industry (such as grills, convection ovens, deep-fat fryer, microwave oven, range, cash register, ice machine and waitress station) is available.
K. Equipment which can be used for several purposes is desirable, e.g., a mixer with attachments for cutting, dicing and slicing.

L. Salad preparation center near dining area with refrigeration nearby.
M. Baking and salad areas located next to each other so one refrigerator can serve both units.
N. Teaching area with eight to ten linear feet of chalkboard, teaching desk, chair, four-drawer file cabinet and minimum 15 square feet bulletin board space.
O. Lavatory in lab area for handwashing.
P. Constant supply of hot and cold water. Plumbing adequate to accommodate commercial dishwasher needs.
Q. Fire extinguisher and first aid kit.
R. Ventilation is adequate to remove smoke, odors, moisture and grease-laden vapor and to bring in fresh air.
S. Heating and cooling system provides working temperatures of approximately 65-70 F. in winter and 70-75 F. in the summer.
T. A combination of gas and electric ranges, grills and/or ovens are available for student use where feasible.
U. Automatic washer and dryer (located away from food preparation areas) or easy access to laundry equipment.
V. Portable demonstration table with adjustable mirror.
W. Facilities and equipment must conform to public health sanitation guidelines.
X. Disposals should be located in the dishwashing and vegetable/salad preparation areas.
Y. Storage for equipment, texts, workbooks, periodicals, instructional materials and aids and students' personal belongings.
Z. Lighting appropriate for task to be completed. Approximately 15-20 foot candles for non-work areas, 30-40 foot candles for work areas and 50 foot candles for reading areas.
AA. Refer to the "Food Management, Production and Services Program Guide" for a list of additional equipment.

805.07 Care and Guidance of Children (Occupational)

805.071 Size - 1800 to 2400 Square Feet

805.072 Design Capacity - ~~25~~ 20 students

805.073 Location
First floor with direct exit to outside play area.

805.074 Activities
Viewing slides, films and other projected materials; class discussions, lectures and demonstrations; individual, small or large group activities; observing small children; directing children's play; supervision of rest period; preparing and serving snacks or simple meals; instruction in child growth and development; nutrition; program planning and management; safety and behavior guidance; play activities; child abuse and neglect; parent-child relationships; learning experiences for children;

interpersonal relationships; and laws, regulations and policies relating to child-care services and maintenance of children's environment.

805.075 Equipment Space and Facilities

A. Outside play area adjacent to indoor area or on same level; half paved - half turf with outdoor play equipment. Allow at least ~~35~~ 75 square feet of outside play area per child. Outside play area is enclosed by a 3-feet-high, child-safe barrier. An outside water source is located within the outside play area.

B. Indoor play equipment and space. Allow at least 35 square feet per child, excluding storage, food preparation and toilet areas. Include organized play centers for activities such as art, language arts, large muscle development, science, math, manipulative and dramatic play and building/climbing.

C. Observation room equipped with a shelf, chairs and one way vision mirror - approximately 100 square feet.

D. Toilet with child-size facilities - one flush toilet and one hand washing basin for each 15 children. Should be easily accessible from outdoor play area.

E. Low lavatory near entrance from outside play area.

F. Isolation area approximately 50 square feet.

G. Kitchen area consisting of range, refrigerator, sink and work and cabinet storage areas.

H. Storage for play equipment, books and reference materials, instructional and food supplies and teachers' and students' personal belongings.

I. Child-size tables and chairs for approximately 15 children. Tables should be safe, durable and sturdy, with adjustable legs. Chairs should have a 12-inch seat height for three or four year olds.

J. A cot or mat with sheet and blanket for each child should be provided for childrens' rest period if children will be in the program all day.

K. Low, child-height drinking fountain (angle jet type with non-oxidizing mouth guard).

L. Fire extinguisher located in the food preparation area.

M. Teaching area with eight to ten linear feet of chalkboard; minimum 15 square feet bulletin board space; chairs and tables or student desks for enrolled students; teachers' desk, chair and four-drawer file.

N. Clean, comfortable flooring - Fire Marshal approved carpeting on indoor play area, except snack area and arts and crafts area.

O. Child-height lockers or space for childrens' clothing near main entrance.

P. Chalkboard, bulletin board and window space available at child's viewing level (approximately three feet from floor).

Q. Electrical outlets are sufficient in number (approximately one every six feet), grounded and conveniently located. Those within reach of children are protected by shields when not in use.
R. Thermometer located approximately 30 inches above floor level. Temperature should be maintained at 68-70 F. at floor level.
S. First aid kit which includes at least an approved disinfectant, sterile cotton and gauze bandages and adhesive tape.
T. Soundproof walls and ceiling.
U. Adequate and safe lighting (50 foot candles for play and activity areas and 30 for other areas), heat and ventilation.
V. Inside storage provided for outdoor play equipment as well as for indoor toys and play equipment.
W. Lockable storage for household cleaners, chemicals and medications.
X. Refer to the "Care and Guidance of Children Program Guide" for a list of additional equipment.

805.08 Fashion Management, Production and Services (Occupational)

805.081 Size
1600 square feet (exclusive of storage); related classroom area - 600 square feet.

805.082 Design Capacity - 20 Students

805.083 Location
Convenient to other home economics facilities if additional courses are offered.

805.084 Activities
Viewing slides, films and other projected materials; class discussions, lectures and demonstrations; individual and group activities; activities covering the entire spectrum of clothing, apparel and textile management, production and services, including but not limited to construction, fabric care, pattern design, clothing care and selection, fitting and alterations of ready-to-wear garments, custom tailoring and fashion merchandising.

805.085 Equipment Space and Facilities
A. Walk-in or built-in storage for garments, equipment and supplies
B. Adequate student work stations are available, including pattern drafting, cutting, sewing, fitting and pressing stations
C. Ample electrical power with conveniently placed electrical outlets to accommodate commercial equipment demands
D. Well lighted room with specialized lighting where needed
E. Domestic sewing machines - two

F. Commercial sewing machines - minimum of eight, such as single needle, lockstitch, overlock, blind stitch and button hole. All machines are equipped with safety guards.
G. Operators' chairs
H. Cutting table (6 feet x 12 feet x 3 feet)
I. Cutting equipment
J. Teaching area with eight to ten linear feet of chalkboard, 15 square feet of bulletin board space, tables and chairs or student desks and teachers' desk, chair and four-drawer file
K. Ironing and pressing equipment
L. Dress forms
M. Full length triple mirror
N. Fitting area or room with a fitting stand
O. Single-bowl stainless steel sink with adequate hot and cold water
P. Drawing boards and other pattern drafting equipment
Q. Refer to the "Fashion Management Production and Services Program Guide" for a list of additional equipment.

805.09 Institutional and Home Management Services (Occupational)

805.091 Size
Approximately 1700 to 2200 square feet; size is dependent upon emphasis of curriculum.

805.092 Design Capacity - 20 Students

805.093 Location
Convenient to other home economics facilities and health occupations facilities, if additional courses are offered.

805.094 Activities
Viewing slides, films and other projected materials; demonstrations; class discussions; lectures; individual, small or large group activities; varied homemaking and housekeeping activities including hospital/executive housekeeping, hotel/motel housekeeping, commercial cleaning, provision of services to the aged in their homes and in institutions, home health aides, assistance in the management of household tasks as domestic housekeepers, assistance to consumers in decision making in relation to housing, food, clothing, community resources and other homemaking concerns and lodging services such as front desk operation.

805.095 Equipment Space and Facilities
A. Planned so that it is flexible enough to offer a variety of institutional and home settings
B. Storage space for large equipment, furnishings and supplies
C. Movable walls wherever possible
D. A variety of wall and floor finishes and window treatments

E. Ample electric power; enough heavy duty circuits and outlets to permit use of many pieces of equipment at one time
F. Kitchen - one. Reflects home setting. Includes dishwasher and garbage disposal.
G. Simulated motel room and bath
H. Laundry areas with sink, sorting table, storage area, washer and dryer
I. Simulated front desk/carpeted lobby area
J. Access to health occupations facilities for hospital housekeeping simulation
K. Adequate plumbing to accommodate equipment needs
L. Teaching area with eight to ten linear feet of chalkboard, at least 15 square feet of bulletin board space, teacher's desk, chair and four-drawer file; bookshelves; students' tables and chairs or desks
M. A variety of related equipment, such as maid's cart, floor polisher/rug shampooer, carpet sweeper, vacuum cleaner, two-step ladder, luggage rack, key and mail rack, credit card machine, computer and cash register
N. Provision is made for lockers, restrooms and dressing facilities in a nearby area.
O. Refer to the "Institutional and Home Management, Production and Services Program Guide" for a list of additional equipment.

806 VOCATIONAL INDUSTRIAL AND TECHNICAL

Factors influencing the location of the building include: isolation from quiet areas; location to provide easy delivery of instructional supplies, materials and equipment; and location convenient to parking area for adult education classes.

806.01 Instructional Space (Classroom)

806.011 Size
Base preliminary determination of area upon the allotment of 25 to 30 square feet per student with a minimum of 500 square feet per instructional space.

806.012 Design Capacity - 20 Students

806.013 Number Required
One instructional space is required per each industrial or technical laboratory.

806.014 Location
Convenient access to the laboratory.

806.015 Activities
Lectures; demonstrations; viewing slides, films and other audiovisual materials; reading printed materials; writing or drawing on chalkboard; using overhead projector and tables;

displaying students' work; instructing with guides, progress charts and instruction sheets; storing instructional materials and supplies.

806.016 Equipment Space and Facilities

A. Chalkboard - 20 to 24 linear feet
   1. Display and chart rail above
   2. Chalkboard in pastel colors is preferred
B. Tackboard - minimum 4 feet x 4 feet
C. Tables and chairs for 20 students
D. Teacher's planning unit with stool or teacher's desk and chair
E. Demonstration table - 30 inches x 60 inches, minimum
F. Storage
   1. Legal size, four-drawer, filing cabinets - two
   ~~2. Magazine rack~~
   2. Minimum of 40 linear feet of shelving
   3. Bookcase for reference books
G. Flat mat screen - 60 inches x 60 inches, minimum
H. Overhead projector and projection stand
I. Duplex electrical outlets - one per seven linear feet of wall space
J. Provisions for light control to permit use of visual aids
K. Ceiling height - eight feet minimum; 12 inches maximum
L. Finish
   1. Floors - tile or other resilient covering
   2. Ceiling - acoustical-type finished ceiling

806.02 Industrial and Technical Laboratories

806.021 Specific Requirements of Labs

The following labs require:

A. a minimum of ~~120~~ 100 square feet per student work station

CODE	LABS
F, N, S, V, W, DD, EE, FF	~~Electronic Products Servicing,~~ Electronics, Electronics Technology
D, M, N, GG	Commercial Art Occupations
D, M, N, CC, DD, HH	Cosmetology
A, C, E, G, H, L, N, T, U, V, W, DD, JJ	Masonry
D, F, M, BB, DD, EE, FF	Computer ~~Programming, Data Processing~~ Technology and Systems

B. a minimum of ~~160~~ 120 square feet per student work station

CODE	LABS
D, M, N, Q, DD	Drafting, Civil Technology
A, B, C, H, N, R, W, BB, DD, CC	Heating, Ventilation and Air Conditioning
D, F, H, M, N, Q, R, W, BB, DD, JJ, CC	~~Commercial Foods~~ Quality Food Occupations and Culinary Arts
B, D, E, F, L, N, S, T, U, V, W, AA, BB, DD, CC	~~Industrial Electronics~~ ~~Industrial Electricity &~~ Electrical Occupations
A, D, M, N, W, DD, GG, CC	Graphic ~~Arts, Printing~~ Communications
B, C, E, L, N, P, Q, T, U, V, W AA, BB, DD, JJ, CC	Sheet Metal
~~D, F, N, DD~~	~~Power Sewing~~
D, F, N, DD	Textile Production & Fabrics

C. a minimum of ~~240~~ 160 square feet per student work station

CODE	LABS
A, B, C, E, F, H, L, N, O, P, S, T, U, V, W, X, Y, AA, BB, DD, JJ, CC	Millwork & Cabinetmaking
A, B, C, E, F, H, L, N, S, T, U, V, W, Y, Z, AA, BB, DD, JJ, CC	General Building Construction, Facilities Maintenance, Building Maintenance & Carpentry
A, B, C, E, F, H, L, N, P, Q, S, T, U, V, W, AA, BB, DD, FF, II, JJ, CC	Welding, Metal ~~Cluster~~ Trades, Combined ~~Sheet Metal~~
A, B, C, E, G, H, K, L, N, O, P, Q, T, U, V, W, X, Y, DD, JJ, CC	Auto Body Repair
A, B, C, E, G, H, J, L, N, P, T, U, V, W, X, DD, JJ, CC	Automobile Mechanics & Power Mechanics

D. a minimum of 240 square feet per student work station

CODE	LABS
~~A, B, G, E, F, H, I, L, N, P, R~~ ~~S, T, U, V, W, X, AA, BB, DD, JJ~~	~~Mining Technology, Mine~~ ~~Maintenance, Industrial~~ ~~Maintenance, Machine Shop~~
~~A, B, G, E, G, H, I, L, N, P~~ ~~T, U, V, W, X, DD, JJ~~	~~Diesel Mechanic, Heavy~~ ~~Equipment Mechanic~~
A, B, C, E, F, H, I, L, N, P, R, S, T, U, V, W, X, AA, BB, DD, JJ, CC	Industrial Equipment Maintenance & Machine Shop
A, B, C, E, G, H, I, L, N, P, T, U, V, W, X, DD, JJ, CC	Diesel Mechanic & Heavy Equipment Mechanic

NOTE: The assistance of specialists in Vocational Industrial and Technical Education should be secured in planning these labs and must be secured when planning labs not listed above.

806.022 Special Facility Requirements

A. Hose bibb
B. Compressed air
C. Concrete floors
D. Resilient finish floors
E. Overhead door - 10 feet X 12 feet, minimum
F. High electrical demand
G. Floor drainage
H. Exhaust system
I. Monorail
J. Automobile hoist
K. Frame rack
L. Ceiling height - 14 feet, minimum
M. Finished ceiling
N. Student wash area
O. Spray booths
P. Heavy machinery
Q. Vents
R. Natural gas
S. Master control switch
T. Ground floor
U. Access driveway
V. Tool room
W. Wainscot four feet from finished floor
X. Storage for flammables
Y. Dust collector
AA. Three phase
BB. 208 V., minimum
CC. Patron and reception room (250 square feet, minimum) and instructional space
DD. Storage room - 80 square feet
EE. Air conditioning
FF. Separate electrical circuit with ground fault
GG. Dark room with sink

HH. Hair wash station
II. Outside storage for gas
JJ. Dressing and restroom facilities for male and female students

806.023 Design Capacity - 20 students

806.024 Location
A. Convenient access to instructional space and parking area
B. Convenient access must be provided for physically handicapped persons
C. High noise labs are to be isolated from quiet areas of the school

806.025 Activities
Construct, test, operate and service equipment and tools; provide personal services for customers; depicting, shaping, forming, assembling and servicing equipment and materials; demonstrations, lectures and individualized instruction.

806.026 Equipment Space and Facilities
A. Equipment should be comparable to that used in industry
B. The equipment will vary with the occupational objectives of the program
C. Chalkboard and tackboard - six linear feet, minimum
D. Window stools should be high enough to permit installation of equipment along wall (four foot minimum).
E. Provide appropriate fire extinguishers for equipment and materials used in program
F. Consultation should be made with Vocational Industrial Education Service for equipment needs of various occupational areas.
~~G. Refer to the "Vocational, Industrial and Technical Program Guides" for a list of additional equipment.~~

807 BUSINESS EDUCATION

The facilities for business education should be located, ideally, on the first floor in a central location where it is relatively quiet. A first floor location, in a two-story building, makes the department easily accessible to handicapped students, adult and community education classes and for service technicians. Business education rooms should be clustered to unify the programs and allow for easy communications, sharing equipment and exhchanging classrooms. ~~Facilities should be located in a relatively quiet area and~~ will require a design to reduce sound transmission. The general location of these facilities should permit easy accessibility for physically handicapped persons and for after-school utilization.

~~Business education rooms should be clustered to unify the program and allow for communicating easily, sharing equipment and exchanging classrooms. The open space concept may be followed if security measures are taken.~~ The number of students enrolled and the curriculum offered determine the number and type of rooms needed.

807.01 All-Purpose Business Education Room

This room would be needed for a small school (up to 150 business students per day) with only one business teacher. Therefore, it is necessary to provide adequate space to store, maintain and use a vast amount of equipment and supplies. The room consists of the following.

A. Equipment-oriented instructional lab area for courses such as ~~Integrated Computing~~ Business Computer Applications, Advanced Business Computer Applications, Keyboarding and Office Technology
B. Multi-purpose classroom instructional area for courses such as Accounting, Business Principles & Management, ~~Shorthand~~ Shorthand/Abbreviated Writing and Business Math
C. Storage for teaching materials, supplies and student references
D. Teacher's desk and demonstration center

~~The room should be carpeted.~~ A five foot electrical grid system with flush floor outlet should be installed. A lavatory with hot and cold water should also be provided. Because of the chemicals contained in some of the correction materials, carbon packs, toners, and reprographic equipment, students, and instructors need to have immediate access to a lavatory for their health and safety.

807.011 Size

1200 to 1400 square feet (60 to 70 square feet per student).

807.012 Design Capacity - 25 Students Per Session

807.013 Location

In the central core of the building.

807.014 Activities

Lecture or carry on small group or class discussions; view slides, films and other projected materials; conferences of small groups of pupils; display pupil projects or work; store partially completed pupil projects; store instructional supplies; listen to recordings or broadcasts; view telecasts; write and transcribe ~~stenographic~~ notes; operate keyboarding equipment/microcomputers and other business equipment.

807.015 Equipment Space and Facilities

A. Tackboard - 10 linear feet
B. Electrical convenience outlets on each wall
C. Calculators
D. Storage (lockable) for instructional supplies
E. Storage for instructor's personal belongings
F. Lockable, legal size file drawers - 16

G. Closed bookshelving - 10 to 12 linear feet
H. Microcomputers/modem and access to network
I. Plain paper copier
J. Microcomputers or electronic typewriters
K. Overhead projector/screen
L. Dictation/transcription equipment
M. Letter quality and dot matrix printers
N. Chalkboard - 40 to 42 linear feet
O. VCR and monitor ~~Refer to the "Business Education Program Guide" for a list of additional equipment.~~
P. Provisions to darken room
Q. Adjustable classroom furniture (desks and chairs)
R. Instructor's desk and chair

807.02 Instructional Space

This room is designed to provide space and equipment for teaching lecture/project oriented courses such as Accounting, Business Principles & Management, Business Math and Business Communications. Also provided are teacher's desk and demonstration center and storage for teaching materials, supplies and student references.

807.021 Size

~~800~~ 900 to 1000 square feet (~~40~~ 36 to ~~50~~ 40 square feet per student).

807.022 Design Capacity - 25 Students

807.023 Location

A. Direct access to the keyboarding, computer lab, or office technology laboratory
B. Convenient access to other business education rooms

807.024 Activities

Complete accounting projects; listen to recordings or broadcasts; display pupil projects or work.

807.025 Equipment Space and Facilities

A. Chalkboard - 40 to 42 linear feet
B. Tackboard - 12 linear feet
C. Display and map rails above chalkboard and tackboard
D. Tables or adjustable desks with space for calculators and a flat working surface for other desk activities - 20; Height-adjustable chairs - 20
E. Instructors desk and chair
F. Work table (three feet X six feet)
G. Work counter - 15 linear feet; 28 to 32 inches deep, with storage underneath
H. Electrical outlets
   1. Convenience strip above work counter
   2. Electrical outlets flush with floor on a five foot grid
   3. Master control panel for all electrical outlets
I. Closed bookshelving - 8 to 10 linear feet
J. Four legal size file drawers (lockable)

K. Storage for instructional supplies
L. Storage for partially completed pupil projects
M. Storage for instructor's personal belongings
N. VCR and monitor
O. Provisions to darken room

807.03 Keyboarding Laboratory
The room consists of the following.
A. Space and equipment for teaching keyboarding and typewriting (If equipped with microcomputers, it may also be used for teaching computer literacy and computer-oriented courses.)
B. Storage for teaching materials, supplies and student references
C. Teacher's desk and demonstration center

~~The room should be carpeted.~~ An ~~five~~ 8 foot electrical grid system with flush floor outlet should be installed. A lavatory with hot and cold water should be provided.

807.031 Size
The size of this facility is dependent upon the type of furniture and equipment contained; 35 to 45 square feet per pupil may be used for preliminary estimates.

807.032 Design Capacity - 30 Students

807.033 Location
In the central core of the building, in the area of other business education rooms.

807.034 Activities
Demonstrate keyboarding techniques; operate electronic and electric keyboards; write and transcribe shorthand; listen to recordings or broadcasts; display pupil projects or work.

807.035 Equipment Space and Facilities
A. Chalkboard - 16 to 20 linear feet (dustless type)
B. Tackboard - 12 linear feet
C. Tables or adjustable desks appropriate for equipment to be used, with height-adjustable chairs - 30
D. Instructor's desk and chair
E. Teacher's demonstration stand
F. Display and map rails above chalkboard and tackboard
G. Electrical outlets
1. Convenience outlets on each wall
2. Floor outlets flush with floor spaced on an 8 ~~five~~ foot grid
3. Master control panel for all electrical outlets
H. Closed bookshelving - 8 to 10 linear feet
I. Four legal size file drawers (lockable)
J. Work table - 30 inches X 72 inches
K. Storage for instructional supplies
L. Storage for partially completed pupil projects
M. Storage for instructor's personal belongings

N. Microcomputers and electronic keyboarding equipment of various types

O. ~~Refer to the "Business Education Program Guide" for a list of additional equipment.~~ Provisions for darkening room

807.04 Teachers' Office and Conference Room

The room consists of the following.

A. Area for conferences

B. Space for instructional planning, instructional materials, supplies, and recordkeeping

C. Storage for student records and teachers' personal belongings

807.041 Size - 200 to 250 Square Feet Per Teacher

807.042 Design Capacity

Office space for teachers and for conferences with individuals.

807.043 Location

Direct access to other business education rooms.

807.044 Activities

Teacher conferences; teacher-pupil conferences; instructional planning and recordkeeping.

807.045 Equipment Space and Facilities

A. Chalkboard - 5 to 6 linear feet

B. Tackboard - 5 to 6 linear feet

C. Conference table with chairs

D. Desk and chair for each teacher

E. Work counter with shelving below - 10 linear feet

F. Legal size file drawers - 12 per teacher

G. Storage for personal belongings of instructors

807.05 Office Technology Laboratory

This room consists of of the following items.

A. Space and equipment for teaching equipment-oriented courses such as Keyboarding, Office Technology, Word Processing, ~~Integrated Computing~~ Business Computer Applications, Advanced Business Computer Applications, Computer Literacy, Shorthand, Abbreviated Writing, Computerized Accounting and Machine Transcription.

B. Storage for teaching materials, supplies and student references.

C. Teacher's desk and demonstration center.

~~The room should be carpeted.~~ An ~~five~~ 8 foot electrical grid system with flush floor outlet should be installed. A lavatory with hot and cold water should be provided.

807.051 Size - 1200 to 1400 Square Feet (60 to 70 square feet per student)

807.052 Design Capacity - 20 students

807.053 Location
Convenient access to other business education rooms.

807.054 Activities
Write at chalkboard or tables; conference of small groups of pupils; display pupil projects or work; store partially completed pupil projects; store instructional supplies; write and transcribe shorthand ~~stenographic~~ or abbreviated writing notes; operate business equipment.

807.055 Equipment, Furniture and Facilities

A. Furniture
   1. Adjustable desks appropriate to equipment being used, and adjustable posture chairs
   2. Two work tables, 3 feet x six feet
B. Office equipment
   1. Copier
   2. Dictation/transcription equipment
   3. Electronic typewriters (some with memory)
   4. Calculators
   5. Microcomputers (640 K min.), networked; hard disk; modem; letter quality and dot matrix printers
C. Electrical outlets flush with floor, spaced on an ~~five~~ eight foot grid
D. Chalkboard and tackboard - four to six linear feet of each
E. Base cabinets for storage of supplies and additional machine stations
F. Lavatory with hot and cold water
G. ~~Refer to the "Business Education Program Guide" for a list of additional equipment.~~ Provisions to darken room
H. VCR and Monitor
I. Instructor's desk and chair

808 ~~INDUSTRIAL ARTS~~ TECHNOLOGY EDUCATION FACILITIES - HIGH SCHOOL LEVEL

Factors influencing the location include providing location for easy delivery of instructional supplies, equipment and materials, some of which are bulky and heavy; design of laboratory to permit some change in individual room areas as activities are developed; and location which permits isolation from the remainder of the building. Since technology education programs differ from industrial arts programs, the assistance of specialists should be secured to adequately plan this suite. Technology education programs include instruction in the areas of communication, transportation, construction, and manufacturing. ~~location in an area of the building which permits some change in individual room areas as actual layouts for equipment are developed; and location which permits isolation from the remainder of the building for after school use. Since industrial arts programs differ, the assistance of specialists should be secured to adequately plan this suite. Generally, instruction will be such as to permit students to develop proficiencies in selected industrial arts areas or~~

~~prepare-for-entry-into-vocational-training.--Industrial-Arts Programs-include-instruction-in-the-areas-of-communications, manufacturing,-transportation-and-construction.~~

808.01 ~~Multiple-Industrial-Arts~~ Technology Education Production Laboratory

808.011 Size

~~Determination-will-be-dependent-upon-instructional activities-in-various-industrial-arts-areas.--The-area should-be-equal-to-125-square-feet-per-student.~~ The area should range from 100 to 125 square feet per student, laid out to permit open areas for construction of large group projects.

808.012 Design Capacity - 20 students

808.013 Location

A. Direct access from the building corridor
B. Convenient access to other rooms in the ~~industrial arts~~ technology education suite
C. Direct access to service drive
~~D. Direct-access-to-auxiliary-spaces~~

808.014 Activities

~~Layout,-measurement-and-cutting-of-general-construction pieces-and-shapes;-building-or-forming-various-objects; using-and-caring-for-hand-tools;-setting-up-and-operating various-machines;-assembling-and-fastening-various-pieces; preparing-for-and-finishing-various-materials;-carrying-on certain-related-handicraft-activities.--Facilities-for instructional-space-activities,-including-use-of-all-types of-audiovisual-equipment,-is-a-necessary-part-of-the laboratory-shop-facility.~~ The laboratory facility will need to provide space for layout, measurement, cutting, forming and fabricating using a variety of materials (ie. wood, metal, plastics); a large open space for construction of group projects such as geodesic domes, space for using and caring for hand tools and a variety of machines; and space for finishing various materials. Facilities for instructional space and the use of all types of audiovisual equipment are necessary.

808.015 Equipment Space and Facilities

A. ~~Varies-with-industrial-arts-instruction~~ The major floor area should be free of heavy or permanently fixed equipment to allow for flexible room arrangement.
B. Chalkboard and tackboard - ~~four-to-six~~ 8 linear feet ~~each~~ minimum
C. ~~Station-work-benches~~ A minimum of four work stations, with underneath storage ~~lockers---four~~
D. Maximum work counter and cabinet storage space
E. Wall mounted lockable tool panels, ~~which-fold-open when-in-use~~ if a tool room is available
F. Windows should be high enough to permit installation of equipment along outside walls

G. Provisions are made for blinds or shades to allow for showing of audiovisual projection materials
H. ~~Floor-or~~ Ceiling electrical grid system for 110 ~~-and-220~~ volt power to ~~various~~ machines with master ~~control~~ switches and emergency cut-off buttons
I. Adequate electrical wall outlets for power equipment and tools
J. Facilities for removal of dust, chips and harmful fumes
K. Door or corridor, minimum 48 inches wide
L. ~~Overhead-door-to-service-drive,-minimum-9'-X-10'~~ Outside door to service drive - double external door with removable mullion
M. Fire extinguishers of such kinds and sizes as recommended by the state Fire Marshal
~~K. Service-available-should-include-AC-and-DC-outlets, compressed-air,-gas-outlets,-hot-and-cold-water and-sewer~~
N. Wash up area for personal cleanliness and preparation and cleaning of tools and supplies
O. Lighting should provide 75 foot candles throughout
P. Refer to the ~~"Industrial-Arts-Program-Guide"~~ "Technology Education Curriculum Guides" for a list of ~~additional~~ specific equipment.

808.02 Technology Education Communication Laboratory/Classrooms

808.021 Size
Determination of size depends upon the number of students and related activities, varying from 45 to 55 square feet per student.

808.022 Design Capacity - 20 Students

808.023 Location
Direct access to production laboratory to provide for easy supervision.

808.024 Activities
Classroom instruction, project planning, small group activities, and a dust-free environment for instruction and activities with equipment such as computers, robotics, electronics, and lasers.

808.025 Equipment Space and Facilities
A. Glass walls or windows in wall facing laboratory to provide for easy supervision
B. Chalkboard - 20 linear feet minimum
Tackboard - 10 linear feet
C. Maximum counter and cabinet storage space along walls (Some of this space may be used for computers. If so, height needs to be adjusted accordingly.)
D. Windows should be high enough to permit installation of counters along outside walls
E. Provisions are made for blinds or shades to allow for showing of audiovisual materials
F. Adequate electrical wall outlet strips for use of electronic equipment, computers and related peripherals

G. Reconfigurable tables and chairs for 20-25 students (These could be adjustable drafting tables)
H. Bookcase for reference and resource books; magazine rack
I. Wall mounted projection screen
J. Floors - tile or other resilient covering
Ceiling - acoustical-type finish
K. Air conditioning

808.03 Instructor's Office

808.031 Size - Varying from 100 to 150 Square Feet

808.032 Location
Convenient or direct access to production laboratory and communication laboratory.

808.033 Equipment Space and Facilities
A. Teacher's desk and chair
B. One or two conference chairs
C. Storage
1. Two letter size, four-drawer file cabinets
2. Open and closed shelving for supplies and references, 20 to 30 linear feet
D. Minimum of two duplex outlets

808.04 Finishing Area
~~This space will depend upon industrial arts technology instruction included in the program.~~

808.041 Size
Varying from ~~100 to 200~~ 75 to 125 square feet.

808.042 Location
Direct access to production laboratory.
~~A. Direct access from multiple activities laboratory~~
~~B. Provide for easy supervision~~

808.043 Activities
Mixing and application of a variety of surface finishes ~~to wood surfaces and other materials~~.

808.044 Equipment Space and Facilities
A. Window in wall facing laboratory to provide for easy supervision
B. Maximum work counter space
C. Positive ventilation
D. Metal storage cabinet for paint, varnish, ~~stains and thinners~~ and other flammable materials
E. Fireproof containers for paint rags
F. Fire extinguishers
G. Adjustable, high intensity, spark-proof lights
H. Hooded spray booth
~~G. Wide access door~~

808.05 Raw Material Storage

~~This space will depend upon industrial arts technology areas included in the program.~~

808.051 Size

Varying from ~~100 to 300~~ 75 to 200 square feet.

808.052 Location

Direct access to production laboratory.

~~A. Direct access from multiple activities laboratory~~

~~B. Direct access to outside truck delivery~~

808.053 Activities

For storage of various types of stock and other supplies necessary in the technology classroom.

808.054 Equipment Space and Facilities

A. Wide access door

B. Storage racks for various types of stock. If stock includes ~~lumber~~ wood and metal, ~~materials~~ stock may be as large as 4 feet x 8 feet

C. Adjustable shelving and cabinets for small items

808.06 Project Storage

~~This space will depend upon industrial arts technology areas included.~~

808.061 Size

Varying from ~~100 to 300~~ 75 to 200 square feet.

808.062 Location

Direct access to production laboratory.

~~A. Direct access from multiple activities laboratories~~

~~B. Provide for easy supervision~~

808.063 Activities

Limited to storage of student projects.

808.064 Equipment Space and Facilities

A. Provide maximum adjustable shelving 24 inches deep along walls

B. Provide free floor area for storage of large ~~items~~ projects

C. Note: This storage may be provided in the form of cabinetry in the laboratory. If so, adjust square footage of laboratory accordingly.

808.07 Hand and Power Tool Storage

808.071 Size

Varying from 75 to 200 square feet.

808.072 Location

Direct access to production laboratory.

808.073 Activities
For storage of various types of hand and power tools and accessories needed in the technology classroom.

808.074 Equipment Space and Facilities
A. Wide access door
B. Adjustable shelving and cabinets for small items
C. Peg board on wall for display of hand tools

808.08 Audiovisual Laboratory

808.081 Size
Varying from 100 to 200 square feet.

808.082 Location
Direct access to communication laboratory.

808.083 Activities
Developing film and photographic paper; enlarging pictures; demonstrating lasers, producing a variety of audiovisual materials such as mock radio and television segments.

808.084 Equipment Space and Facilities
A. Safe light as well as regular overhead lighting
B. Maximum work counter space
C. Maximum cabinet storage; some must be light safe
D. Positive ventilation
E. Sink and hot and cold running water
F. Electrical outlets along counter
G. Lightproof and soundproof from exterior influences
H. Additional electrical outlets for equipment usage

~~808.05 Planning Conference Room and Instructor's Office~~
~~NOTE: May be planned as separate areas.~~

~~808.051 Size 100 Square Feet~~

~~808.052 Capacity~~
~~Provide for total laboratory classroom enrollment.~~

~~808.053 Location~~
~~A. Direct access to laboratory and convenient access to other auxiliary areas~~
~~B. Provide for ease of supervision from multiple activities laboratory office if separate units are used~~

~~808.054 Activities~~
~~Confer with individual and small groups; instruction; sketch, write and plan on chalkboard and at desks; plan individual problem solving.~~

808.055 Equipment-Space-and-Facilities

A. Chalkboard-and-tackboard-with-map-and-display rail-above---10-to-15-linear-feet-of-each

B. Storage-for-instructional-materials,-equipment and-supplies

1. Open-shelving---10-to-20-feet

2. Closed-shelving---20-to-30-linear-feet

3. Filing-space---eight-drawers

C. Teacher's-desk-and-chair

D. Individual-tables-and-adjustable-stools-for-drawing, sketching-and-related-activities

E. Glazed-panel-between-this-area-and-laboratory-for ease-of-supervision

F. Acoustical-walls-and-ceilings

G. A-demonstration-table-equipped-with-gas,-electricity, air-and-water

H. Central-control-for-lighting

I. Hook-ups-for-television-(commercial-and-closed-circuit)

J. Resource-center-and-library

808.06 Mechanical-Drawing-(Drafting)-Room

808.061 Size

Determination-of-size-depends-upon-the-number-of-students-to be-housed-and-related-activities.--Minimum-of-55-square-feet per-student.

808.062 Capacity---20-students

808.063 Location

A. Direct-access-from-building-corridor

B. Convenient-or-direct-access-from-other-rooms-in the-industrial-arts-technology-complex

808.064 Activities

Drawing,-sketching,-lettering-and-using-and-caring-for drawing-instruments;-reading-drawings-and-blueprints; blueprinting;-making-tracings;-designing-projects-for various-media;-viewing-slides,-films-and-other-projected materials.

808.065 Equipment-Space-and-Facilities

A. Drafting-tables-with-tilt-tops

B. Adjustable-stools

C. Blueprinting-machine

D. Work-counter-with-wet-sink,-air,-gas-and-electricity and-storage-below---10-to-12-linear-feet

E. Teacher's-desk-and-chair

F. Refer-to-the-"Industrial-Arts-Program-Guide"-for-a list-of-additional-equipment.

809 CAREER EXPLORATION (PREVOCATIONAL EXPLORATION)

Where available, Career exploration programs can should utilize existing agriculture, business, home economics and industrial arts technology education laboratories. With adequate career exploration equipment and materials, existing vocational laboratories may be utilized effectively. Portable equipment may be utilized in laboratories having limited space. If a facility is being designed specifically for career exploration, the following laboratory spaces should be considered: Business, Environmental, Industrial, Service and a Career Resource Center. See particular sections for areas of specifications.

809.01 Business Laboratory

809.011 Size---1200 to 1500 Square Feet

809.012 Capacity---20 students

809.013 Location
Close proximity to other laboratory areas in the career exploration (prevocational exploration) program.

809.014 Activities
Hands on experience that relates to occupational clusters in business and office, communications and media and distribution and marketing; some lecture; small group discussion; viewing slides; writing at desks or tables.

809.015 Equipment Spaces and Facilities
A. Ventilation needed to eliminate toxic (darkroom) or offensive odors (such as inks, paint and thinner).
B. Electrical outlets desirable every six feet around the room. Wiremold outlets around the perimeter are preferred.
C. Carpeting is highly desirable in the reference area and the right hand side of the laboratory, up to and including the photographic studio; could be used in most of the laboratory, but would be undesirable in the printing or other "messy" areas.
D. Storage areas are needed for overall laboratory supply storage; storage for students' incompleted projects and personal belongings, and for aprons and protective coverings used in photographic, printing and mimeographing areas.
E. Ceilings---drop outlets; poles could be used where false ceiling exists.
F. Refer to the "Guide for Establishing Programs of Prevocational Exploration" for list of equipment and materials.

809.02 Environmental Laboratory

809.021 Size
Determination of size is dependent on instructional activities in the various clusters. The area should be equal to 100 square feet per student.

809.022 Capacity--20 Students

809.023 Location
Close proximity to other laboratory areas in the career exploration (prevocational exploration) program.

809.024 Activities
Hands on experience that relates to occupational clusters in agri business and natural resources, environment, nature and fresh water and recreation.

809.025 Equipment Space and Facilities
A. Electricity--required power for designated equipment (single phase three phase)
B. Safety--must be in conformity with rules and regulations of OSHA and the Fire Marshal, and any other rules and regulations pertaining to shop and laboratory areas.
C. Outdoor laboratory would be desirable.
D. Refer to the "Guide for Establishing Programs of Prevocational Exploration" for list of equipment and materials.

809.03 Industrial Laboratory

809.031 Size
Determination of size is dependent upon instructional activities in the various clusters. The area should be equal to 100 square feet per student.

809.032 Capacity--20 Students

809.033 Location
Close proximity to other laboratory areas in the career exploration (prevocational exploration) program.

809.034 Activities
Hands on experience that relates to occupational clusters in construction, fine arts and humanities, manufacturing and transportation.

809.035 Equipment and Facilities
A. Proper ventilation and exhaust systems
B. Required power for designated equipment (such as single phase three phase or 110 V)
C. Safety--must be in conformity with rules and regulations of OSHA and the Fire Marshal, and any other rules and regulations pertaining to shop areas

D. Door-to-corridor---minimum-of-48-inches-wide; overhead-door-to-service-drive---Minimum-of-9-feet by-10-feet.

E. Refer-to-the-"Guide-for-Establishing-Programs-of Prevocational-Exploration"-for-list-of-equipment and-materials.

809.04 Service-Laboratory

809.041 Size---1200-Square-Feet

809.042 Capacity---20-Students

809.043 Location
Close-proximity-to-other-laboratory-areas-in-the-career exploration-(prevocational-exploration)-program.

809.044 Activities
Hands-on-experience-that-relates-to-occupational-clusters in-consumer-and-homemaking,-health,-hospitality,-personal service-and-public-service.

809.045 Equipment-and-Facilities

A. Ventilation---adequate-ventilation-to-handle specific-equipment

B. Electricity---required-power-for-designated equipment-(single-phase-three-phase)

C. Safety---must-be-in-conformity-with-existing-rules and-regulations

D. Refer-to-the-"Guide-for-Establishing-Programs-of Prevocational-Exploration"-for-list-of-equipment and-materials.

900 COUNTY SUPPORT FACILITIES

County boards of education have sufficient support facilities to maximize the efficient administration of the county schools. Accessible county support facilities are provided and maintained to promote a healthy and safe environment. Space and equipment available in such facilities provide the support services necessary for a thorough and efficient educational program. When possible, support facilities are housed together to maximize efficiency.

901 ADMINISTRATIVE FACILITIES

County boards of education provide adequate office and ancillary space to house all administrative personnel and functions.

901.01 Size of Administrative Facilities

Support facilities are organized in such a manner as to provide effective services as economically as possible. The size and number of such facilities are dependent upon the services required by the county.

901.02 Site - Administrative Facilities

901.021 Location

Each administrative facility should be located and developed in proper relationship to the county's governmental agencies, such as the county center of government.

901.022 Size

Site shall be of adequate size to provide parking for the staff and regular visitors. Allow approximately 325 square feet ~~per~~ of space for each car.

901.023 Site

See Chapter 2 for applicable site information.

902 GENERAL OFFICE AND RECEPTION/WAITING AREA - ADMINISTRATIVE FACILITIES

902.01 Size

Dependent upon size of the center, 200 to 400 square feet will likely be needed for secretarial and reception areas.

902.02 Location

A. At the hub of the administrative suite
B. Direct access to a building corridor and to work room
C. Direct or convenient access to other office rooms in the administrative suite
D. Near main entrance to facility
E. Convenient access to workroom

902.03 Activities

Reception of visitors, pupils and staff; general secretarial activities required in the operation of the center.

902.04 Equipment Space and Facilities

A. Counter separating reception/waiting room or area from the secretarial work area
B. Comfortable chairs in reception area
C. Small table for magazines and other literature
D. Display space and tackboard
E. Secretarial furniture
F. Master telephone station or other communication to all locations in the administrative areas
G. Carpeting or resilient floor covering

903 WORK ROOM - ADMINISTRATIVE FACILITIES

903.01 Size - 200 to 300 Square Feet

903.02 Location

Direct access to the general office and waiting room.

903.03 Activities

Preparation of materials, reports and layouts of instructional materials by both secretarial and other personnel.

903.04 Equipment Space and Facilities

A. Combination of open shelving and closed cabinets for storage of a variety of supplies and equipment
B. Space for duplicating machine
C. Work table or counter
D. Lavatory
E. Microcomputer work station
F. Carpeting or resilient floor covering
G. Forced ventilation

904 STORAGE FOR BOOKS AND INSTRUCTIONAL SUPPLIES - ADMINISTRATIVE FACILITIES

904.01 Size

500 to 1000 square feet. (Base size on county needs for central instructional supply and distribution.)

904.02 Location

A. Convenient access to the general office
B. Direct opening to corridor through "dutch door" or window to permit distribution of supplies
C. Exterior door for receiving and distribution

904.03 Activities

Storage and distribution of instructional materials and supplies including books, paper, notebooks, erasers and pencils.

905 BOARD ROOM/MEETING ROOM - ADMINISTRATIVE FACILITIES

905.01 Size

Approximately 600 square feet (depending on the space needed for spectator seating).

905.02 Location

A. Convenient access to general office
B. Design and location should permit groups to confer without being overheard in adjacent rooms.

905.03 Activities

Conferences and training involving staff, and regular and special board meetings.

905.04 Equipment Space and Facilities

A. Conference table, chairs and spectator chairs
B. Chalkboard - 6 to 8 linear feet
C. Tackboard - 4 to 6 linear feet
D. Pull-down projection screen
E. Forced ventilation
F. Capability of darkening room
G. Carpet

906 SUPERINTENDENT'S OFFICE - ADMINISTRATIVE FACILITIES

906.01 Size - 180 to 300 Square Feet

906.02 Location

A. Direct or convenient access to general office
B. Convenient access to the corridor without going through the general office
C. Convenient access to other areas in the administrative suite
D. Convenient to board room

906.03 Activities

Planning, research and administrative activities conducted individually or in groups.

906.04 Equipment Space and Facilities:

A. Room design should permit the superintendent to confer without being overheard in adjacent areas.
B. Conference desk and chair
C. Work table convenient to desk for layout work
D. Conference chairs
E. Bookshelving - 10 to 15 linear feet
F. Storage for personal belongings
G. Telephone service and intercom to secretary in general office
H. Carpet

907 ASSISTANT SUPERINTENDENT'S OFFICE - ADMINISTRATIVE FACILITIES

907.01 Size - 125 to 200 Square Feet

907.02 Location

Convenient access to general office and superintendent's office.

907.03 Activities

Planning, research and administrative activities conducted individually or in small groups.

907.04 Equipment Space and Facilities

A. Room design should permit the assistant superintendent to confer without being overheard in adjacent areas.
B. Conference desk and chair
C. Work table convenient to desk for layout work
D. Conference chairs
E. Bookshelving - 10 to 15 linear feet
F. Storage for personal belongings
G. Telephone service and intercom to secretary in general office.

908 OFFICES FOR PROFESSIONAL SUPPORT PERSONNEL - ADMINISTRATIVE FACILITIES (Number of spaces required will depend on the local staff size.)

908.01 Size - 120 to 150 Square Feet Per Office

908.02 Location

A. Direct access from reception area and convenient access to meeting room and general office in the administrative suite.
B. Design and location should permit conferences without voices being overheard in the adjacent areas.
C. Easy access to vault and records

908.03 Activities - Daily Execution of Job Duties

908.04 Equipment Space and Facilities

A. Desk and chair
B. Conference chairs
C. Shelving - 10 to 15 linear feet
D. Tackboard - 4 to 6 linear feet
E. Storage for personal belongings
F. Telephone communication with general office and intercom to secretary. Require private telephone line or lines to the counselor's office.
G. One four-drawer file cabinet with lock
H. Carpet
I. Microcomputer work station

909 RECORD VAULT - ADMINISTRATIVE FACILITIES

NOTE: Vault may be eliminated by providing fire-resistant filing cabinets in the general office or other storage area.

909.01 Size - 200 to 300 Square Feet

909.02 Location

Direct or convenient access from the general office.

909.03 Activities - Storage of Current and Inactive Records

909.04 Equipment Space and Facilities

A. General construction should be fire-resistant

B. Cart storage units preferable for current records
C. Carpet

910 SECRETARIAL WORK AREA OR OFFICE - ADMINISTRATIVE FACILITIES
(Number of spaces required will depend on the local staff size.)

910.01 Size - 100 to 120 Square Feet

910.02 Location - Direct Access to Offices Served

910.03 Activities - Daily Execution of Job Duties

910.04 Equipment Space and Facilities
A. Secretarial desk and chair
B. Typewriter and stand
C. Comfortable chairs
D. Filing cabinets
E. Carpet
F. Telephone communication with general office
G. Microcomputer work station

911 STAFF LOUNGE - ADMINISTRATIVE FACILITIES

911.01 Size - 150 to 180 Square Feet

911.02 Location
A. Direct access from a building corridor
B. Location avoiding major traffic, yet reasonably close to the administrative area
C. Toilets should not have direct opening into the lounge area.
D. Carpet or resilient flooring

911.03 Equipment Space and Facilities
A. Comfortable lounge furniture
B. Kitchenette to prepare light refreshments
C. Adequate ventilation
D. Toilets

912 SERVICE FACILITIES - ADMINISTRATIVE FACILITIES

See Chapter 11.

913 ENGINEERING AND CUSTODIAL FACILITIES - ADMINISTRATIVE FACILITIES

See Chapter 12.

914 COUNTY MAINTENANCE AND OPERATIONS FACILITIES

The maintenance component of the program is concerned with keeping all school facility sites, buildings and equipment at their original condition of completeness and efficiency, either through repairs or replacement. The operation component of the program is concerned with the day-to-day services which are necessary to keep the physical plant open and in a safe, usable condition.

915 MAINTENANCE FACILITIES

County boards of education provide sufficient, secure and centrally located repair and maintenance facilities for educational facilities. County boards of education provide sufficient facilities for storage of all supplies, equipment and food items.

915.01 Size of Maintenance Facilities

Maintenance facilities are organized in such a manner as to provide effective services as economically as possible. The size of such facilities is dependent upon the services required by the county.

915.02 Site of Maintenance Facilities

915.021

The operations and maintenance facility should be located centrally in the county for the convenience of maintenance personnel traveling from the facility to schools and other staff traveling to this facility for training sessions. It may be desirable to have a combination administrative, operations and maintenance facility.

915.022

Site shall be of adequate size to provide parking for staff automobiles, maintenance trucks and delivery vehicles. Allow 325 square feet of space for each car.

915.023

See Chapter 2 for applicable site information.

916 GENERAL OFFICE AND RECEPTION/WAITING AREA - MAINTENANCE FACILITIES

916.01 Size

Dependent upon size of the center, 200 to 400 square feet will likely be needed for secretarial and reception areas.

916.02 Location

A. At the hub of the administrative suite
B. Direct access to a building corridor and to work room
C. Near main entrance of facility
D. Convenient access to work room

916.03 Activities

Reception of visitors and staff; general secretarial activities required in the operation of the center.

916.04 Equipment Space and Facilities

A. Counter separating reception/waiting room or area from the secretarial work area
B. Comfortable chairs in reception area
C. Small table for magazines and other literature
D. Display space and tackboard
E. Secretarial furniture

F. Master telephone station or other communications to all locations in the facility
G. Carpeting or resilient floor covering

917 WORK ROOM - MAINTENANCE FACILITIES

917.01 Size - 100 to 150 Square Feet

917.02 Location
Direct access to the general office and waiting room.

917.03 Activities
Preparation of reports and layouts of materials by both secretarial and other personnel.

917.04 Equipment Space and Facilities
A. Combination of open shelving and closed cabinets for storage of a variety of supplies and equipment
B. Duplicating machine
C. Work table or counter
D. Lavatory
E. Microcomputer work station
F. Resilient floor covering
G. Forced ventilation

918 MEETING ROOM/TRAINING FACILITY - MAINTENANCE FACILITIES

918.01 Size
Approximately 500 square feet (depending on needs for training sessions).

918.02 Location
A. Convenient access to general office/reception/waiting areas.
B. Design and location should permit groups to confer without being overheard in adjacent rooms.

918.03 Activities - Conferences and Training of Staff

918.04 Equipment Space and Facilities
A. Conference tables and chairs
B. Chalkboard - 6 to 8 linear feet
C. Tackboard - 4 to 6 linear feet
D. Forced ventilation
E. Carpet
F. Capability of darkening room
G. Pull-down projection screen

919 RECORD STORAGE - MAINTENANCE FACILITIES

NOTE: Room may be eliminated by providing fire-resistant filing cabinets in the general office or other storage area.

919.01 Size - 120 to 180 Square Feet

919.02 Location
Direct or convenient access from the general office and other areas.

919.03 Activities
Storage of current and inactive building documents.

919.04 Equipment Space and Facilities
A. General construction should be fire-resistant.
B. Files for plans and documents
C. Plan table
D. Microcomputer work station
E. Filing cabinets

920 OFFICES FOR PROFESSIONAL SUPPORT PERSONNEL AND SERVICE SUPERVISORS - MAINTENANCE FACILITIES (Number of spaces required will depend on the size of the local staff.)

920.01 Size - 125 to 200 Square Feet

920.02 Location
Convenient access to general office and other spaces.

920.03 Activities
Planning, research and administrative activities conducted individually or in small groups.

920.04 Equipment Space and Facilities
A. Room design should permit staff members to confer without being overheard in adjacent areas.
B. Conference desk and chair
C. Conference chairs
D. Bookshelving - 10 to 15 linear feet
E. Storage for personal belongings
F. Telephone service and intercom to secretary in general office
G. Carpet or resilient floor covering

921 SECRETARIAL WORK AREAS OR OFFICES - MAINTENANCE FACILITIES (Number of spaces required will depend on the size of the local staff.)

921.01 Size - 100 to 120 Square Feet

921.02 Location - Direct Access to Offices Served

921.03 Activities - Daily Execution of Job Duties

921.04 Equipment Space and Facilities
A. Secretarial desk and chair
B. Typewriter and stand
C. Comfortable chairs
D. Filing cabinets
E. Telephone communication with general office
F. Carpet
G. Microcomputer work station

922 CARPENTRY, PLUMBING, HEATING AND ELECTRICAL MAINTENANCE SHOPS - MAINTENANCE FACILITIES

922.01 Size
500 to 1000 square feet for each shop; base size on county needs for maintenance services.

922.02 Location
A. Convenient access to the general office
B. Exterior door for distribution and receiving
C. May be desirable to have an enclosed loading and unloading area for service vehicles.

922.03 Activities
Storage of replacement parts, repairs to building components and distribution of maintenance supplies.

923 SERVICE FACILITIES - MAINTENANCE FACILITIES

See Chapter 11.

924 ENGINEERING AND CUSTODIAL FACILITIES - MAINTENANCE FACILITIES

See Chapter 12.

925 STAFF LOUNGE - MAINTENANCE FACILITIES

925.01 Size
100 to 150 square feet, or according to staff number.

925.02 Location
A. Direct access from a building corridor
B. Location avoiding major traffic, yet reasonably close to the administrative area
C. Toilets should not have direct opening into the lounge area.

925.03 Equipment Space and Facilities
A. Comfortable lounge furniture
B. Kitchenette to prepare light refreshments
C. Adequate ventilation

926 STORAGE FACILITIES

County board of education provides sufficient facilities for storage of all supplies, equipment and food items.

926.01
Custodial and food service storage rooms (must be separate spaces).

926.011 Size
500 to 1000 square feet; base size on county needs for central supply and distribution of custodial supplies, dry foods, refrigerated foods and frozen foods to the local system.

926.012 Location

A. Convenient access to the general office
B. Direct opening to corridor through "dutch door" or window to permit distribution of supplies
C. Exterior door for receiving and distribution

926.013 Activities

Storage and distribution of materials and supplies.

927 TRANSPORTATION FACILITIES

Transportation services are an integral part of the system of education in West Virginia. With expanding transportation requirements comes the necessity to maximize efficiency and at the same time exercise extreme concern for safety. County boards of education provide sufficient, secure and centrally-located staff offices, training spaces and storage, repair and maintenance facilities for all school buses and vehicles.

927.01 Size

Transportation facilities are organized in such a manner as to provide effective services as economically as possible. The size and number of such facilities are dependent upon the services required by the county. The following is generally felt to be the size required to adequately serve a smaller county and may be used as a standard for multi-centers in larger counties.

927.02 Site

927.021

The transportation facility must have a site sufficient to park the county's entire fleet of buses, as well as employees' and visitors' vehicles. The following can be used for preliminary planning, but final layouts must be done to insure accurate planning.

A. Buses - 20 per acre
B. Cars - 325 square feet
C. Due to the size of buses and their turning radius large amounts of space are required for circulation of vehicles.
D. Center should be located to facilitate easy access and reduce bus runs.

927.022

See Chapter 2.

928 BUS REFUELING/PUMP STATION - TRANSPORTATION FACILITIES

928.01

Refueling pumps and/or stations are safely separated from maintenance and storage areas. Facility must supply all types of fuel in use, such as gasoline, diesel, LPG and CNG.

928.02
Should be visible from the office area.

928.03
Must comply with applicable safety standards.

928.04
Provide adequate space for bus circulation.

929 RECEPTION/WAITING AREAS - TRANSPORTATION FACILITIES

929.01 Size
Dependent upon size of the center, 200 to 400 square feet will likely be needed for secretarial and reception areas.

929.02 Location
- A. At the hub of the administrative suite
- B. Direct access to a building corridor and to work room
- C. Direct or convenient access to director's office and other rooms in the administrative suite
- D. Near main entrance to facility
- E. Access to work room

929.03 Activities
Reception of visitors and staff, and general secretarial activities required in the operation of the center.

929.04 Equipment Space and Facilities:
- A. Counter separating reception/waiting room or area from the secretarial work area
- B. Comfortable chairs in reception area
- C. Small table for magazines and other literature
- D. Display space and tackboard
- E. Secretarial furniture
- F. Master telephone station, or other communication, to all locations
- G. Carpeting or resilient floor covering

930 DIRECTOR'S OFFICE - TRANSPORTATION FACILITIES

930.01 Size - 150 to 225 Square Feet

930.02 Location
- A. Direct or convenient access to general office
- B. Convenient access to the corridor without going through the general office
- C. Convenient access to other areas

930.03 Activities
Planning, research and administrative activities conducted individually or in small groups.

930.04 Equipment Space and Facilities

A. Room design should permit the director to confer without being overheard in adjacent areas.
B. Conference desk and chair
C. Work table convenient to desk for layout work
D. Conference chairs
E. Bookshelving - 15 to 30 linear feet
F. Storage for personal belongings
G. Telephone service and intercom to secretary in general office

930.05 Assistant Director/Trainer Office

These spaces may be needed, depending on the size of the local transportation system.

930.051 Size - 125 to 180 Square Feet

931 WORK ROOM - TRANSPORTATION FACILITIES

931.01 Size - 100 to 150 Square Feet

931.02 Location

Direct access to the general office and waiting room.

931.03 Activities

Preparation of materials, reports and layouts of materials by both secretarial and other personnel.

931.04 Equipment Space and Facilities

A. Combination of open shelving and closed cabinets for storage of a variety of supplies and equipment
B. Duplicating machine
C. Work table or counter
D. Lavatory
E. Microcomputer work station
F. Resilient floor covering

932 STAFF LOUNGE/TRAINING ROOM - TRANSPORTATION FACILITIES

932.01 Size

According to staff number, 250 to 700 square feet.

932.02 Location

A. Direct access from a building corridor
B. Location avoiding major traffic, yet reasonably close to the director's office
C. Toilets should not have direct opening into the lounge area.

932.03 Equipment Space and Facilities

A. Comfortable lounge furniture (if not used for training)
B. Kitchenette to prepare light refreshments
C. Adequate ventilation
D. Toilets
E. Pull-down projection screen

F. Capability of darkening room
G. Chalkboard - 8 feet by 12 feet
H. Tackboard - 4 feet by 6 feet
I. Tables and chairs (if used for training)

NOTE: The size of the staff lounge/training room will vary, depending upon availability of space for training activities at other locations within the system.

933 TWO (2) GENERAL SERVICE BAYS - TRANSPORTATION FACILITIES

933.01 Size
20 feet x 60 feet space, with 14 feet x 14 feet overhead door; provide 14 feet minimum height.

933.02 Location
A. Direct access to vehicle storage yard
B. Access to tool room (200 square feet)
C. Access to parts room (400 to 600 square feet with 15 feet ceiling height and double doors for removal of large parts)

933.03 Equipment Space and Facilities:
A. Mechanic work benches with wall space above
B. Overhead beam and lift for engine removal
C. Outlets for exhaust removal
D. Compressed air
E. Cold water
F. 120 volt and 240 volt electric
G. Trench drains
H. Non-slip concrete floor

934 ONE (1) HYDRAULIC LIFT BAY - TRANSPORTATION FACILITIES

934.01 Size
20 feet x 60 feet space, with 14 feet x 14 feet overhead door. Provide minimum 18 feet height.

934.02 Location
A. Access to the new oil storage room (100 square feet)
B. Access to tool room
C. Access to parts room

934.03 Equipment Space and Facilities
A. Mechanic work benches with wall space above
B. Adjustable length hydraulic lift for lifting entire bus at one time
C. Outlets for exhaust removal
D. Used oil receiver
E. Compressed air
F. Cold water
G. Electric - 120 volt and 240 volt
H. Floor drains
I. Non-slip concrete floor

935 ONE (1) WASH BAY - TRANSPORTATION FACILITIES

935.01 Size

20 feet x 60 feet pull-thru, if possible. (If automatic wash equipment is used, the room size must be coordinated with the equipment manufacturer.)

935.02 Location

A. Fully partitioned space
B. Adjacent to other service bays
C. Easy circulation to and from the service yard
D. Access to hot water heater room and mixing equipment

935.03 Equipment Space and Facilities

A. Adequate heat and ventilation for year-round usage
B. Water resistant floor and wall finishes
C. Adequate drains
D. Non-slip concrete floor

936 ONE (1) BODY REPAIR/PAINT BAY - TRANSPORTATION FACILITIES

NOTE: Wash bay may be used for this purpose, but this is not recommended because of the need for a clean, dry environment and the requirements to satisfy health and safety concerns.

936.01 Size

20 feet x 60 feet space, with 14 feet x 14 feet overhead door. Provide minimum 14 feet ceiling height.

936.02 Location

A. Easy access to vehicle storage yard
B. Access to paint equipment and supply room
C. Access to parts room
D. Must be self-contained space

936.03 Equipment Space and Facilities

A. Mechanic work benches
B. Heated, filtered make-up air and filtered exhaust air system
C. Compressed air
D. Cold water
E. Electric, 120 volt and 240 volt
F. Floor drains
G. Non-slip concrete floor

937 SERVICE FACILITIES

See Chapter 11.

938 ENGINEERING AND CUSTODIAL FACILITIES

See Chapter 12.

1000 SCHOOL FACILITY SAFETY

All school facilities are designed, constructed, furnished and maintained in a manner that assures every reasonable and necessary safeguard to the life and health of persons who enter and use the facility.

The safety of each facility is determined upon compliance with the minimum requirements of the state Fire Code, as well as the state Department of Health and other regulatory agencies. The contents of this section are not all-encompassing, and reference is necessary to the applicable law for compliance.

1001 STRUCTURAL SAFETY

References:

12. Building Officials and Code Administrators International Basic Building Code - B.O.C.A.
13. Southern Building Code

All school facilities are to be designed, constructed, furnished and maintained with methods, materials and equipment that provide adequate structural safety, fire resistance and protection and convenience in traffic circulation. All school facilities shall be in compliance with all applicable state regulatory agencies.

1001.01

The structural design elements shall provide:

A. the ability of the building to resist lateral forces such as are imposed by extreme winds and earthquakes.
B. the ability of the building to resist distortion and rapid deterioration from excessive or uneven foundation settling or the overstress of structural members and inadequate tying.
C. the ability of the building to carry the maximum live loads imposed on it by school and community use.

1002 TYPES OF CONSTRUCTION AND AREA LIMITATIONS

1002.01

Approved automatic sprinkler systems must be installed in all new buildings used for any occupancies exceeding the areas in the following building height table.

NOTES FOR BUILDING HEIGHT TABLE:

(1) The word "area" means that area enclosed by exterior or foundation walls, fire barriers or a combination of exterior and foundation walls. A fire barrier is a continuous vertical membrane designed and constructed with a fire resistance rating of two (2) hours to limit the spread of fire and smoke. Fire barriers shall have protected openings.

(2) The phrase "not permitted" means that buildings of these heights are not permitted for the type of construction indicated.

(3) The phrase "Section 10-High Rise" means that the building shall also comply with Section 10 of the State Fire Code.

(4) Types of building construction indicated in the chart are located in NFPA 220, Standard on Types of Building Construction.

(5) Protection of structural members in Type I and Type II construction: Columns, girders, trusses, beams, lintels or other structural members that are required to have a fire resistance rating and support more than two floors or one floor and roof, or that support a bearing wall or a nonbearing wall more than two stories high, shall be individually protected on all sides for their length or height with materials having the required fire resistance rating. All other structural members required to have a fire resistance rating may be protected by individual encasement, by a membrane or ceiling protection which is part of an approved assembly which meets the required fire resistance rating or by a combination of both.

BUILDING HEIGHT

Type of Construction	1 Story	2 Story	More than 2 stories and up to 40 ft.	More than 40 feet	More than 75 feet
Type I 443					
Fire Resistive	40,000	30,000	10,000	Sec. 10 High Rise	Sec.10 High Rise
332					
Fire Resistive	40,000	30,000	10,000	Sec. 10 High Rise	Sec. 10 High Rise
Type II 222					
Protected Non-Com.	30,000	20,000	8,000	Sec. 10 High Rise	Sec. 10 High Rise
111					
Protected Limited Combustible	20,000	15,000	5,000	Sec. 10 High Rise	NOT PERMITTED
000					

Unprotected Limited			All Areas		
Unprotected Non-Com.	7,000	4,000	Require Sprinklers	NOT PERMITTED	NOT PERMITTED
Type III 211					
Ordinary Protected	9,000	6,000	All Areas Require Sprinklers	NOT PERMITTED	NOT PERMITTED
200					
Ordinary Non-Protected	7,000	4,000	All Areas Require Sprinklers	NOT PERMITTED	NOT PERMITTED
Type IV 2HH					
Heavy Timber	9,000	6,000	3,000	NOT PERMITTED	NOT PERMITTED
Type V					
111					
Protected Wood Frame	7,000	4,000	All Areas Require Sprinklers	NOT PERMITTED	NOT PERMITTED
000					
Non-Protected Wood Frame	5,000	3,000	NOT PERMITTED	NOT PERMITTED	NOT PERMITTED

1002.02 Places of Assembly

These, in educational facilities, shall be limited as the following explains.

Places of assembly include, but are not limited to, all buildings or portions of buildings used for gathering together 50 or more persons for such purposes as deliberation, worship, entertainment, dining, amusement or awaiting transportation. Examples: gymnasiums, auditoriums, libraries and cafeterias.

Classification of places of assembly are explained as follows. Each place of assembly shall be classified, according to its capacity, as follows: Class A, capacity of 1000 persons or more; Class B, capacity of 300 to 1000 persons; Class C, capacity of 50 to 300 persons.

Type of Construction	Below LED	LED	Number of Levels Above LED			
			1	2	3	4 & Above
I(443) I(332) II(222)	A*B*C* Any number of Levels	ABC	ABC	ABC	ABC	A*B*C
II(111)	A*B*C One Level Below LED	ABC	ABC	A*BC	B*C*	N.P.
III(211) IV(2HH) V(111)	A*B*C* One Level Below LED	ABC	ABC	A*B*C	B*C*	N.P.
II(000) III(200) V(000)	B*C* One Level Below LED	BC	C*	N.P.	N.P.	N.P.

*Permitted if the level of the place of assembly and any story intervening between that level and the level of exit discharge are protected throughout by an approved automatic sprinkler system. If there are any openings between the level of exit discharge and the exits serving the place of assembly, the level of exit discharge shall also be protected throughout by an approved automatic sprinkler system (see Section 7-7).

N.P. - Not Permitted
LED - Level of Exit Discharge

1003 FIRE PROTECTION

1003.01 Fire Safety

Fire safety, in educational facilities, includes, but is not limited to fire-resistive construction, fire alarm systems, sprinkler systems, exits, enclosure of vertical openings and evacuation plans.

1003.02

Refer to appropriate sections of West Virginia Fire Code. This code is on file in every county clerk's office.

1003.03 Heating Plant and Kitchen Ranges

A. The furnace room shall be isolated from pupil-occupied areas by location and/or treatment (fire-resistive construction).
B. Heat plant installations shall be in accordance with appropriate state and local codes.
C. Kitchen ranges of more than four burners, deep fat friers and ovens must have ventilation and protection in accordance with the state Fire Code; NFPA 96, Vapor Removal Cooking Equipment.

1003.04 Electric Services

A. All wiring, connections and electrical installations shall be in accordance with the state Fire Code; NFPA 70, National Electrical Code.

1003.05 Fire Alarm System

1003.051 General Requirements

A. All fire alarm systems, including all components, shall be electrically supervised. Components shall include pull stations, automatic detection, sounding devices, flow switches, tamper switches and main panel.

B. All fire alarm systems shall be tied in ahead of the main power disconnect unless secondary power source is provided.

C. All fire alarm system wiring shall be in accordance with The National Fire Codes, imposed by Section 4 of the state Fire Code.

D. Sprinkler system(s) installed - the OS & Y and P.I.V. Valves shall be electrically supervised and tied into the trouble side of the panel.

E. Sprinkler system(s) shall be tied in so flow will activate the general fire alarm sounding device(s).

F. Flow and/or pressure switches shall be annunciated separately on the main fire alarm panel.

G. Heating, ventilation, air conditioning systems (HVAC)

1. All heating, ventilation and air conditioning systems greater than 2000 CFM and less than 15,000 CFM shall have a duct-type smoke detector in the return air duct or plenum for automatic shut down to close main fan dampers and to sound general fire alarm when activated.
2. All heating, ventilation and air conditioning systems greater than 15,000 CFM shall have duct-type smoke detectors installed in both supply and return air duct to automatically shut down, close main fan dampers and sound general fire alarm when activated.
3. 100% utilization of outside air will not require duct detector(s).
4. Exception to 1003.05(G) - HVAC Systems used as part of the engineered smoke control systems are exempt from 1003.05(G).

H. Audible alarm indicating devices shall be of such character and so distributed as to be effectively heard above the ambient noise level obtained under normal conditions of occupancy. Audible alarm indicating devices shall produce audible signals that are distinctive from those used for other purposes in the same building.

Prerecorded or live voice evacuation instructions to occupants are permitted. Prerecorded instructions shall be preceded by not less than 5 seconds, or more than 10 seconds, of a continuous alerting signal. Upon completion or failure of prerecorded instructions, the fire alarm evacuation signal shall sound. Prerecorded instructions shall be repeated two or more times. Live voice instructions shall be permitted to interrupt the prerecorded message or the fire alarm evacuation signal. Audible and visual fire alarm devices shall be used only for the fire alarm system.

I. Manual pull stations shall be located no greater than 200 feet from each other and at all exits. Manual pull stations shall be of the same general operational type.

J. Thermal detectors are required in the following areas in all occupancies requiring a fire alarm system, and as listed or identified in the Life Safety Code (NFPA 101):

1. Elevator Shafts	Fixed Temperature
2. Attic and Cockloft Spaces	Fixed Temperature
3. Storage Rooms	Rate of Rise
4. Furnace or Boiler Rooms	Fixed Temperature
5. Janitor Closets	Rate of Rise
6. Kitchens	Fixed Temperature
7. Laboratories, Home Economics, Woodworking Shops, Auto Shops, Utility Rooms & Locker Rooms	Rate of Rise

K. Smoke detectors are required in the following areas in all occupancies requiring fire alarm systems:
   1. Rooms and/or areas designated for the location of electrical distribution panels or transformers.
   2. Stages - smoke detectors, where required, shall be placed a maximum of 15 feet from ends of corridors or walls and 30 feet apart on centers. Variance with these requirements must have submission of technical data to justify exceeding these distance requirements.

L. A building or structure being used for more than one occupancy must comply with the fire alarm system requirements of the most stringent occupancy.

1003.052 Requirements for Educational Occupancy

A. A fire alarm system is required in every educational occupancy area (as defined in the Life Safety Code), and such a system must meet the requirements and standards as provided herein. Educational occupancies area as defined in the Life Safety Code. Exception: One- or two-room buildings of less than 2500 square feet gross floor area with direct exit to the outside from each classroom.

B. The general requirements set forth in 1003.05 must be complied with.

C. Open plan classroom concepts will require a complete smoke detection system throughout the facility.

D. Day care centers located in buildings other than educational facilities shall have smoke detectors installed on ceilings of each story. Detectors must be placed in front of the doors to the stairways, and in the corridors of all floors occupied by the center (no farther than 30 feet apart). Detectors shall also be installed in lounges and recreation areas in the center.

E. An annunciator for the fire alarm panel is to be readily accessible to local fire department personnel if more than one zone is provided.

F. Rate of rise thermal detectors are required in all rest rooms having three (3) or more fixtures.

G. Smoke detectors shall be installed in all corridors, except in single-story buildings with direct exit to the exterior (via a door) from every room normally occupied by students.

1003.06 Fire Extinguishers

A fire extinguisher shall be installed in accordance with the state Fire Code; NFPA 10, Portable Extinguishers.

1003.07 Occupant Load Calculations

A. The occupant load of educational facilities, or any individual stories or sections thereof, shall be as determined by the state Fire Code; NFPA 101, Life Safety Code: One person for each 20 square feet of net classroom area, or 50 square feet of the net area of shops, laboratories and similar vocational rooms.

B. Occupant load requirements of lecture rooms, gymnasiums or cafeterias used for assembly purposes shall also be determined by the state Fire Code; NFPA 101, Life Safety Code.

1003.08 Emergency Lighting

Every educational facility shall have emergency lighting for:

A. All interior stairs and corridors.

B. All spaces that are normally occupied, except administrative areas, classrooms and mechanical and storage areas.

NOTE: Shops and laboratories require emergency lighting.

1003.09 Extinguishment Requirement

A. Every portion of each educational building below the floor of exit discharge shall be protected throughout by an approved automatic sprinkler system in accordance with the state Fire Code; NFPA 101, Life Safety Code.

B. Every educational building shall be provided with an automatic sprinkler system, as required in Section 5 of the state Fire Code and other applicable sections. (Noted as Section 902.)

1003.10 Vertical Openings

All vertical openings in educational buildings shall be enclosed and protected by fire-resistive construction, as required by the state Fire Code.

1003.11 Classrooms

Every room or space used for classroom or other educational purposes shall have at least one outside window used for emergency rescue or ventilation. Such window shall be openable from the inside without the use of tools and provide a clear opening of not less than 20 inches in width, 24 inches in height and 5.7 square feet in area. The bottom of the opening shall be no higher than 44 inches above the floor. Exceptions to this requirement are completely sprinklered buildings and/or classrooms contained therein having direct exit to the outside.

1004 NOTIFYING THE FIRE DEPARTMENT

Whenever an unwanted fire occurs in any building or on any premises of any kind, the owner, manager, occupant, or any person in control of such building or premises, upon discovery of an unwanted fire, or evidence of there having been an unwanted fire, even though it has apparently been extinguished, immediately shall cause notice of the existence of such fire, circumstances of same, and the location thereof to be given to the Fire Department. This requirement shall not be construed to forbid the owner, manager, or other person in control of the aforementioned building or premises from using all diligence necessary to extinguish such fire prior to the arrival of the Fire Department.

No person shall make, issue, post, or maintain any regulation or order, written or verbal, that would require any person to take any unnecessary delaying action prior to reporting a fire to the Fire Department.

1005 CIRCULATION, SAFETY AND CONVENIENCE

1005.01 Corridors

A. Each corridor shall be a minimum of 6 feet wide in the clear. Room and locker doors swinging into corridors shall not, at any point of the swing, reduce the minimum clear passage.
B. A means of egress shall exist at each end of a corridor, and in no case shall any corridor extend more than 20 feet beyond an exit.
C. Doors separating corridors from stair enclosures shall be B Label fire rated doors and swing in the direction of exiting.

1005.02 Stairways

A. All stairways shall conform to the requirements of the state Fire Code; NFPA 101, Life Safety Code. Chapter 5 of the Life Safety Code provides details for construction and dimensions.

B. Closets, storage areas or other rooms or spaces shall not open into the stairway enclosure; nor shall such space be permitted under or over stairways.

C. Buildings of more than one story shall have a minimum of two stairways, located remote from each other, which provide a continuous exit to the outside. Additional stairways may be necessary, dependent upon occupant load and square footage of the floor(s).

1005.03 Exits

A. All buildings, including one-room buildings or classrooms over 1000 square feet, shall have a minimum of two exits, remote from each other.

B. All exits shall comply with the state Fire Code, NFPA 101, Life Safety Code. Chapter 5 provides information for determining number, kinds, arrangement and capacity of required exits.

1005.04 Signs

A. All auditoriums, assembly areas, gymnasiums, stairways, corridors and exits should have illuminated signs marked "EXIT" in plain, legible letters (with direction arrow, if necessary).

B. Low hanging signs, ceiling lights and similar objects, signs and fixtures that protrude into regular corridors or traffic ways shall be avoided. A minimum height of seven feet six inches from the floor is necessary.

1006 OTHER CIRCULATION AND TRAFFIC PROBLEMS WHICH NEED SPECIAL ATTENTION

1006.01

The plan of the drive and bus-loading platform should be such that all buses can line up in tandem, permitting children to enter the bus from the right (that is, without crossing in front or to the rear of buses). No backing up of buses will be permitted.

1006.02

Access to the school grounds should be such that pupils coming to the site do not need to walk through any part of the building to get to the playground.

1006.03

Pupil circulation to and from toilet units is simplified when these units and handwashing facilities are located as follows.

A. On the normal traffic routes from instructional spaces to outdoor recreation areas.

B. Adjoining playgrounds so that the building proper need not be entered by playground users.

C. Near the cafeteria or lunchroom.

1007 DEMOLITION, RENOVATION AND ALTERATION

References:

2. N - 3

Before embarking on a renovation project, there are preliminary steps which must be taken. The existing facility must be examined carefully. Information about the educational program, the community, enrollment and so forth must be assembled and analyzed. Educational goals must be clearly established and alternative solutions to the facilities problem (including renovation, renovation plus additions, demolition and replacement or new site acquisition and new construction) must be developed and compared.

1007.01
An assessment of the existing facility should include an examination of at least the following areas:

A. Program support
B. Structural soundness
C. Adaptability of the building
D. Adequacy of space
E. Aesthetics
F. Operational and maintenance efficiency
G. Condition of mechanical systems
H. Compliance with safety codes
I. Location
J. Site characteristics
K. Cost of project

1008 EMERGENCY SHELTERS

1008.01
Professional advice and assistance in the design of shelter areas for school buildings is available at no cost to architects and school boards. This service is obtained through the state Department of Emergency Services.

1009 RELOCATABLE, WOOD FRAME ~~AND PRE-ENGINEERED~~ OR METAL BUILDINGS

1009.01
These installations shall be made only to relieve overcrowding ~~, for special programs~~ or to provide interim housing while an approved school construction project is being planned and/or completed. Local school districts must include in their facilities plan a method and time frame for replacing these buildings with permanent structures. These buildings shall comply with all state usage guidelines and applicable building and fire codes.

1010 SAFETY AND CLEANLINESS OF BUILDINGS

1010.01
All schools must be maintained in a safe condition. Scheduled inspections will insure that facilities are kept in a state as near to the original condition as possible at all times. Facilities shall also be kept clean and sanitary at all times by scheduled cleaning of all sections of the buildings. This shall be insured by regular inspections for compliance with scheduled cleaning tasks.

1100 SERVICE FACILITIES

All schools contain adequate service facilities that are designed, constructed, maintained and equipped to facilitate the operation of the school.

1100.01 Sanitary Facilities - Water Supply and Sewage Disposal

The water supply and sewage disposal systems of all schools are designed, constructed, maintained and equipped to facilitate the operation of the schools. The sanitary facilities systems meet all requirements of state and federal regulatory agencies. Toilet facilities are accessible to the physically handicapped, are provided on each floor level of the building and contain hot and cold water mixing faucets and provisions for privacy. Paper towels and toilet tissue are provided at all times. Service sinks with hot and cold water are provided in each custodial closet, in the custodial general service area and in the food service area.

1100.011

Adequate source of water supply that is both safe and potable. Tests to verify the quantity and sanitary quality must be conducted prior to the occupation of the school. The state and/or local health departments welcome the opportunity for consultation regarding water conditions prior to site selection or acquisition.

1100.012

Ample supply and storage of water should be available at all times for present and future expanded needs - at least 30 gallons per day per pupil for all purposes.

1100.013

Water must be safe for use, as determined by state and/or local health authorities, and maintained safe by protection of source of supply, treatment if necessary and periodic analysis.

1100.014

Sewage disposal system design requires the technical services of a sanitary engineer. The type of installation depends upon the character of the soil as determined by percolation tests, location of wells and sources of water supply. State and local health departments will provide maximum assistance in the development of approved sewage disposal systems in rural and suburban areas.

1100.015

The sanitary protection of an individual water supply and/or sewage disposal system shall be upgraded to meet current standards when any renovation or addition is to be provided at an existing school.

1100.016
All on site water supplies and extended aeration treatment sewage plants will require personnel that are properly certified by the West Virginia Department of Health to operate these systems.

1100.017
All boilers shall have an approved back flow preventer device placed on the make-up water line to prevent contamination of the potable water supply. All laboratories shall be isolated from the remainder of the school by an approved back flow preventer device on the water line. Back flow preventer devices are to be shown on plans submitted for review and included in the specifications to the West Virginia Department of Health.

1100.018
The required ratio of water closets, urinals, lavatories or wash fountains and drinking fountains shall be maintained when a renovation or an addition enlarges the school population.

1100.02 Toilet Facilities
Federal regulations demand that toilet rooms shall have at least one toilet stall that has the following:

A. Is 3 feet wide
B. Is at least 5 feet 6 inches deep
C. Has a door that is 32 inches wide and swings out
D. Has handrails on each side, 32 inches in height and parallel to the floor
E. Has a water closet with the seat height between 17 and 19 inches from the floor

Toilet and facilities must conform to U.S.A. Standard Specifications for making buildings accessible to and usable by the physically handicapped. A. 117.1 - 1980 American National Standards Institute, 1430 Broadway, New York, N.Y. 10018

1100.021
Toilet facilities should be provided for both sexes on each floor level of the school building. Some economy may be achieved if toilet rooms are located adjacent to each other with common utility space between for servicing; the same is true in multi-story buildings, where toilets may be located one above the other.

1100.022
Entrances to toilet rooms must be designed to prevent visibility from the corridor. Toilet room doors must be self closing.

1100.023
Toilets for public use should be conveniently available to the auditorium, gymnasium and other parts of the building commonly used by the public. Pupils' general toilet rooms may be strategically located for public use in some cases.

1100.024
Toilet room floors, preferably, should be of ceramic tile or similar impervious masonry material.

1100.025
Wall surfaces should be of impervious material, such as glazed tile, to a height of at least six feet (and preferably to the ceiling).

1100.026
Provide stall toilet partitions with doors of smooth non-porous material. These should be securely anchored.

1100.027
Floor drains, hose bibbs and cleanout plugs should be provided in gang toilet rooms.

1100.03 Plumbing Fixtures

1100.031
Service sinks with hot and cold water should be provided in each custodian's closet, in the custodian's general service room and in the cafeteria-kitchen. Vacuum breakers may be needed on sink water lines.

1100.032
Hydrants, tamper proof and frost proof, should be provided at least every 120 feet around the perimeter of the building. Underground stop and waste cocks shall not be permitted on frost proof hydrants.

1100.033
All piping and valves in the plumbing system should be tagged for identification, and a chart of plumbing layouts should be readily accessible in the head custodian's room.

SCHOOL

Type	Elementary	Secondary	Notes:
Water Closets:			Ratio in elementary schools
Ratio: Girls	1-35	1-45	applicable only when general
Boys	1-40	1-75	facilities are provided.
Height:	13 inches	15 inches	In other schools, provide a minimum of two in gang toilets. U-type seats for commodes. Provide toilet paper in dispensers at all times.
Urinals:			Not required in toilet rooms
Ratio:	1-30	1-30	of individual instructional
Height:	18-20 in.	22-24 in.	spaces.

Lavatories & Wash Fountain:			Cold and temperate water
Ratio:	1-50	1-50	(maximum 115 degrees F.)
Height:	24-27 in.	30-32 in.	with mixing faucet.
Drinking Fountains:			Lavatories to include hot and cold water mixing faucet,
Ratio:	1-75	1-75	sanitary towels in a
Height:	24-28 in.	32-36 in.	dispenser and hand cleaner. Preferably, separate fixtures.

NOTE: See Chapters 4, 5, 6, 7 and 8 for additional fixture requirements in special areas of the building.

1101 ELECTRIC SERVICE

Reference:
16. National Electrical Code

The electrical system of each school is designed, constructed, maintained and equipped to facilitate the safe operation of the school. The electrical system provides adequate service for present and anticipated loads to insure maximum efficiency and meets all requirements of applicable state regulatory agencies.

1101.01
All electrical service shall comply with the National Electrical Code.

1101.02
Adequate electric service for present and anticipated loads should be provided to insure maximum efficiency.

1101.03
All transmission wiring systems should be in separate conduits.

1101.04
Wherever feasible and possible, electric service should be brought into a meter and switch room specifically designed for this purpose and appropriately located within the school building.

1101.05
A directory ~~should~~ shall be provided for electrical panel boards, and a schematic plan of the electrical systems should be available in the head custodian's office.

1101.06
In all shops, master controls ~~should~~ shall be strategically located to shut off machines in case of an emergency.

1101.07
All electrical equipment used in the school shall be properly grounded and protected against electrical surges that might damage the equipment.

1102 AUDIOVISUAL FACILITIES

All schools shall be designed, constructed, maintained and equipped to provide the audiovisual facilities required for the educational program of the school.

1102.01
Instructional spaces and production areas should be furnished to permit the use of all types of audiovisual materials and equipment.

1102.02
Adequate provision for controlling the light level in instructional areas is essential. (For efficient use of projection-type materials, the light in the room, particularly in the area of the projection surface, should not exceed one-tenth foot candle.)

1102.03
Duplex service receptacles should be installed on all walls of the instructional space for the use of instructional equipment. Sufficient branch electrical circuits service should be in each room.

1102.04
Where there are to be specialized facilities, such as language labs, study carrels, micro-teaching and television, provision should be made for electrical service in the floor.

1102.05
Conduits shall be provided to permit future installation of computer terminals, televison and other electronic instructional devices.

1102.06
System conduits ~~should~~ shall be ~~at least one and one half inches in diameter in order~~ of sufficient size to provide for installation of televison and other teaching devices ~~indicated above~~.

1102.07
A projection surface should be permanently installed in each instructional area with provision for eliminating keystoning.

1102.08
Media production centers and photographic darkroom facilities should be provided with adequate sinks for hot and cold running water.

1102.09
Adequate ventilating facilities, including exhaust fans, shall be installed in production areas for the removal of fumes resulting from the use of rubber cement and other chemicals.

1102.10
For preservation of book and non-book materials and equipment, temperature and humidity control are essential. Air conditioning of media centers and production areas is a must.

1102.11
Use of audio devices mandates acoustical treatment of walls, ceilings and floors in instructional areas and media centers, particularly in open-type classrooms where many activities are occurring simultaneously.

1102.12
Adequate display and exhibit facilities, including such things as magnetic boards, chalkboards, tackboards and show cases, are required.

1102.13
Adequate storage facilities for materials such as supplies, book and non-book materials and equipment are required.

1103 COMMUNICATION AND PROGRAM FACILITIES

All schools are designed, constructed, maintained and equipped to facilitate adequate intercommunication among major areas of the school plant. All schools contain a master clock, a signal and tone system and telephone for outside communication.

1104 FIRE ALARM SYSTEM

References:
14. West Virginia Fire Code
15. Life Safety Code 101 and National Fire Code
16. National Electrical Code - Supplement A

1104.01
Fire Alarm Signals shall be of the continuous type, shall be distinctly different from all other signals or sounds and shall comply with the state Fire Code.

1104.02
Signals providing alarm to other potential emergencies shall be distinctly different from the one used to evacuate the building in case of fire.

1200 ENGINEERING AND CUSTODIAL FACILITIES

All schools are designed, constructed, maintained and equipped to provide adequate and appropriate space and services for custodians. All schools are equipped with custodial and engineering areas, individually accessible to a service drive, with exterior doors sized to permit removal of room equipment or delivery of supplies. The areas are isolated from pupil occupied areas by location and/or treatment. Custodial closets are located within the school in strategic and convenient areas. Adequate facilities are provided for storage of supplies and equipment, and adequate provisions are made for waste disposal. Each custodial service facility is in compliance with all requirements of appropriate state regulatory agencies.

1200.01 Heat Plant - Size
Area as needed.

1200.02 Heat Plant - Location
- A. Directly accessible to service drive, with exterior doors to permit removal of room equipment.
- B. Isolated from pupil-occupied areas by location and/or treatment.

1200.03 Heat Plant - Equipment and Facilities
As needed, with provision to permit expansion if necessary.

1201 RECEIVING, STORAGE AND WORK ROOM

1201.01 Size - Area as Needed - ~~Minimum~~ Approximately of 250 Square Feet

1201.02 Location - Direct Access From the Service Drive

1201.03 Equipment Space and Facilities
- A. Shelving in a variety of depths and heights to provide temporary storage for supplies and equipment delivered to the school and custodial equipment not used daily, such as ladders, vacuum cleaners and scrubbers. Shelving should be of fine resilient construction.
- B. Provide work bench equipped with vise and storage for small hand and power tools used in minor repair.
- C. Grounded duplex receptacles over work bench at three feet intervals.
- D. Storage lockers under bench.
- E. Wide doors sized to permit passage of large, bulky equipment and supplies.
- F. In multi-story buildings, a freight or service elevator for conveyance of supplies and equipment and use by the handicapped is needed.

1202 GENERAL REQUIREMENTS

1202.01
Adequate and appropriate space, facilities and services should be provided for the custodians, including locker, shower, toilet and lavatory.

1202.02
In large schools, it is desirable to provide an office for the head custodian near custodial quarters. There facilities will be available for preparing and filing reports, preparing requisitions, schedules and records and for holding private conferences.

1202.03
Some school buildings, particularly large high schools, have laundry facilities for cleaning physical education, food service, custodial and other equipment and supplies. Automatic drying machines may require venting to the outside. Compliance to the state Fire Code is necessary.

1202.04
Since portable electric floor cleaners are frequently used, ample electrical outlets shall be located at convenient points not more than 75 feet apart in corridors and rooms.

1203 LAWN TOOL EQUIPMENT STORAGE ROOM

1203.01 Size - 50 to 100 Square Feet

1203.02 Location - Direct Access From Out-Of-Doors

1203.03 Equipment Space and Facilities
Shelving and space to permit easy storage of lawn mower, lawn tools and snow removal and other equipment needed in the care of the school grounds.

1204 POWER, METER AND SWITCH ROOM

1204.01 Size - Area as Needed

1204.02 Location
A. Convenient access from the boiler room and custodian's area.
B. Location to avoid damage from water or moisture.

1204.03 Equipment Space and Facilities
Electrical panels, meters and switches needed to provide electrical service in the building.

1205 INCINERATOR AND WASTE ROOM

NOTE: An incinerator may be installed to burn refuse. The incinerator (either indoor or outdoor) and space occupied thereby, should be chosen with special consideration given to daily

disposal of waste. Fire hazards, fire insurance rates and ecology also must have careful consideration. Incinerators must be of a type that meets the Construction and Air Quality control standards of the state Department of Health, state Fire Code and the West Virginia Air Pollution Control Commission. The use of compactors and haul-away service are alternative methods.

1205.01 Size - Area as Needed

1205.02 Location
Easy access from the custodian's room and heating plant.

1206 LOCKER-DRESSING ROOM

1206.01 Size - 75 to 100 Square Feet

1206.02 Location - Adjacent to Custodian's Room

1206.03 Equipment Space and Facilities
A. Lockers
B. Mirror
C. Chairs or benches
D. Toilet
E. Shower

1207 CUSTODIAL CLOSETS

1207.01 Size and Number - Area as Needed

1207.02 Location
Strategically located along corridors, a minimum of one per floor, and in food service area to reduce the travel necessary to properly maintain a healthful and clean school.

1207.03 Equipment Space and Facilities
A. Service sink with mud trap and hot and cold water
B. Shelving for various cleaning supplies and equipment
C. Storage space for mops and brooms

1208 STORAGE OTHER THAN CUSTODIAL

1208.01
Fire-safe vault or fire-resistive files shall be available in the administrative area for storage of pupil and school records and valuables.

1208.02
Government donations of surplus foods, some of a bulky nature, may create a need for substantial storage space located convenient to the cafeteria-kitchen. Additional refrigeration or freezer space may also be needed.

1208.03

Appropriate provisions shall be made for the storage of wraps of pupils, teachers and other school employees. No single plan for such storage can be applied to all schools. Whatever plan is adopted, the following factors should be considered.

A. Convenient for individuals wearing the clothing
B. Safe from theft or vandalism
C. Sanitation
D. Adequate ventilation
E. Orderly arrangement in appearance
F. Economy of provisions

1209 MISCELLANEOUS SERVICE FACILITIES

1209.01

Parking spaces, walks and entrances should be adequately lighted, chiefly by floodlights located at strategic points within or upon the building, or upon poles or standards.

1209.02

Parking space should be provided for automobiles of school employees, visitors and pupils who drive their own cars to school. Frequently, parking space must also be provided for school buses which are idle during the day. Such parking space, if possible, should be screened from the view of the general public.

1209.03

Approximately five percent of the parking spaces should be identified for use by the physically handicapped. The parking spaces should be open on one side, allowing room for individuals in wheelchairs or on braces or crutches to get in and out. Level surfaces are preferred.

1209.04

In laying out bus and traffic patterns, it should be remembered that discharge or pick-up of students at loading/unloading zones must always be from the side of the vehicle opposite the driver and toward the building. Backing up of buses will not be permitted.

1210 ACCESSIBILITY

Reference:

5. A - 117.1

All schools are designed, constructed, maintained and equipped to provide a barrier-free environment and maximum accessibility by the handicapped to all floors. All facilities are in compliance with the requirements of state and federal regulatory agencies concerned with accessibility to the handicapped.

1300 COMMON ENVIRONMENTAL FACTORS

All schools are designed, constructed, furnished and maintained in a manner which incorporates all existing technology into the common environmental factors which facilitate the educational program of the school. Spatial and aesthetic considerations are incorporated into the school design, construction, equipment and maintenance. The thermal, visual and acoustical systems are balanced in a manner which properly controls the environment and facilitates the educational program of the school.

School facilities must be in compliance with the requirements of the state Fire Code, state Health Department and other regulatory agencies.

1301 THERMAL ENVIRONMENT

References:

2. I and G
18. Climatological Data For West Virginia
19. American Society of Heating, Refrigerating and Air Conditioning Engineers, Inc.
20. Energy Consumption Guidelines for Educational Facilities

The school facility is designed, constructed, equipped and maintained in a manner which provides for maximum comfort and economy. The heating, ventilating and air-conditioning systems in all school facilities are in compliance with the requirements of applicable state regulatory agencies.

1301.01

Minimum functions of the space conditioning system employed to maintain the proper thermal environment in a school building are as follows.

A. Supply heat for warm-up and balance heat losses from the room to the outside.
B. Supply tempered outside air for the removal of excess heat.
C. Dilute and remove unpleasant odors by ventilation.
D. In special cases, the system must remove injurious or noxious gases, vapors, fumes and dust by the induction of outside air or by filtration.

With the increasing tendency toward longer school terms and, in some cases, year-round use of physical plants, it is recommended that serious consideration be given to summer air conditioning to provide the desired level of environmental control.

1301.02

Space conditioning systems should be of sufficient rated capacity to meet the building requirements under extreme local weather conditions. This will avoid sustained operation beyond the capacity of the system. Outdoor design temperatures shall be based on climalogical data collected by the U.S. Department of Commerce.

1301.021 Operative Temperature

Heating systems of conventional design should provide the following temperatures.

A. Instructional spaces, auditoriums, offices and cafeterias - 68 degrees F, measured 30 inches above the floor.

B. Closed corridors, stairways, shops, laboratories and kitchens - 68 degrees F, measured 60 inches above the floor.

C. Activity rooms, such as gymnasiums - 65 degrees F, measured 60 inches above the floor.
Special cases: Toilet rooms - 65 degrees F, locker rooms and showers - 78 degrees F and swimming pools - 83 degrees F, each measured 60 inches above the floor.

D. The maximum temperature gradient from floor to 60 inches above the floor should not exceed three degrees.

1301.022 Air supply

Space conditioning systems should have sufficient capacity to provide for introduction of outside air as follows:

A.

Classrooms	5 cubic feet per minute/person
Library	5 cubic feet per minute/person
Auditorium	7 cubic feet per minute/person
Corridors	.02 cubic feet per minute/feet squared
Utility Rooms	.02 cubic feet per minute/feet squared
Offices	20 cubic feet per minute/ person
Meeting Rooms	35 cubic feet per minute/ person
Teachers' Lounge	35 cubic feet per minute/ person

B. If air conditioning is not provided, 12 to 15 air changes per hour may be desired in auditoriums or other assembly space in summer.

1301.023 Air Movement

Air motion, with proper distribution and without drafts, is essential in educational facilities. Also important are effective air cleaning, positive temperature control, low noise level and acceptable humidity conditions.

A. Air motion should generally fall within a range of 25 to 50 linear feet per minute and should be maintained at a constant rate with a pattern that prevents temperature stratification.

B. Special provisions may have to be made in the window zone to overcome the effects of cold window down draft.

C. Since positive pressure is usually desirable in conditioned areas, approximately 10 percent more air should be supplied than is exhausted, thus minimizing infiltration.

1301.024 Humidity Control

While normal comfort conditions may be maintained with a wide range in relative humidity, it is desirable that actual levels not fall below 30 percent nor exceed 70 percent. This, of course, requires installations of humidification equipment for winter use, while the air conditioning will usually handle dehumidification requirements during warmer weather. It should also be stated that very dry conditions contribute to eye, nose, and throat irritation, while higher moisture promotes unhealthy mold growth.

NOTE: Special requirements for libraries, resource rooms and music facilities.

1301.025 Air Cleaning

Air cleaning is essential in areas where the air is heavily laden with dust or smoke. Filtering, washing, screening, precipitation, absorption or other cleaning methods may be used.

1301.026 Radiant Temperature

Reduced radiant temperatures are usually compensated for by increased air temperatures. Special treatment of the window zone may be desirable to compensate for the greatly reduced radiant temperature there as compared with the rest of the room.

1301.03

Some form of cooling system is desirable, and may be essential, for schools in areas where the outside temperature is above the optimum during a portion of the school year.

1301.04

Determining the type of heating and ventilating system to be used is a highly technical problem dependent upon the original cost, the operating cost, the maintenance services available, the size of the building, the level of student comfort which can be economically obtained and, in some instances, the designer's preference. Technical advice concerning the type of heating and ventilating system to be utilized should be secured from consulting engineers qualified to deal with heating and ventilating problems. Because of the many different types of environmental systems available, the variations in owning costs by type installation and the relative costs of competing energy sources, the architect and/or engineer must make an in-depth study to determine the best and most economical system and energy used to meet the objectives of the school board regarding space conditioning.

1301.05

Zone control heating and ventilating systems should be provided in order to secure the maximum utilization of facilities and the greatest economy in operation. Special Education centers require special room control to satisfy student needs. Controls shall be a type that will permit easy interfacing of energy management systems.

1301.06

Boards of education, before accepting the heating contractor's work, should receive complete written instructions regarding the operation and maintenance of the mechanical equipment and should insist that a designated school employee be given direct instruction by one or more competent representatives of the contractor or equipment firms.

1301.07 Inspection of Systems

The specifications should require an independent consulting engineering firm or other qualified individuals to inspect, balance and evaluate the finished system before title passes to the school board to assure that the system is installed as designed and is operating according to specifications.
NOTE: Warranties and brochures should be furnished to the board by the installation contractor on all equipment.

1301.08

The architect/engineer shall analyze the facility for its total energy efficiency and shall certify the energy usage in BTU/Gross S.F./Year. Energy usage must be within guidelines established by the Fuel and Energy Office, Governor's Office of Economic and Community Development.

1301.09 Interior Air Quality Standards

A. There shall be no open-flame, fuel burning heaters in student and staff occupied spaces. This equipment shall be located in enclosed rooms or cabinets using outside air for combustion and be properly vented to the outside in a manner that exhausts all fuel gases.
B. Materials which, under normal use conditions, may release formaldehyde in excess of .1 parts per million or asbestos dust, or which contribute to levels of indoor air pollutants considered potentially harmful to human health, shall not be permitted in building systems.
C. Pesticides used for termite and rodent control shall not be used at levels that might cause contamination of air quality in interior spaces.
D. Fresh air intakes shall be located to disallow contamination from stacks, vents or motor vehicles. Stacks shall be designed to completely exhaust flue gas away from the building.

1302 VISUAL ENVIRONMENT

Reference:

21. Lighting Handbook, Illuminating Engineering Society

The school facility is designed, constructed, equipped and maintained in a manner which provides a good visual environment. The facility is attractively painted and illuminated in a manner which most effectively contributes to an environment of visual accuracy and comfort. All schools are in compliance with requirements of applicable state regulatory agencies.

1302.01 General

1302.011
Technical assistance from qualified lighting engineers is generally required to insure adequate visual conditions within spaces.
NOTE: Electric power companies usually employ competent lighting engineers who may assist in finding solutions to lighting problems.

1302.012
Plans and specifications for new plants should be developed to achieve as many of the desired lighting goals as possible in the original construction with due consideration for the need of maintaining a balance between the visual and other major environmental factors.

1302.013
Proper visual environment lessens the expenditure of energy required for students and teachers to carry on visual tasks in the instructional space.

1302.014
A sufficient quantity of light is essential for good visual conditions. However, a task becomes visible, not by the light falling upon it, but by reflected brightness.

1302.015
Visual comfort and efficiency may best be achieved in an environment in which the brightness-difference would be as small as possible between the task and the brightest surface and between the task and the darkest surface in the total visual field while the general level of illumination is high.

1302.016
Informal seating in the instructional space has gained wide acceptance. The visual field, therefore, must be recognized as encompassing all four walls, the floor and the ceiling.

1302.02 Desirable Brightness

1302.021
In an instructional space, the brightness of any surface viewed from any normal sitting or standing position should not be excessively greater than the brightness of the visual task. As the high brightness of surfaces in the visual field approaches the brightness of the task, visual comfort and efficiency increase. Present research indicates that, with a 30 foot candle level of illumination, the highest acceptable brightness of any surface in the visual field should not be greater than 10 times the brightness of the task. Above 30 foot candles, the brightness ratio should decrease as the foot candles increase.

1302.022

In an instructional space, the brightness of any surface viewed from any normal standing or sitting position should not be excessively lower than the brightness of the visual task. As the low brightness of the surfaces in the visual field approaches the brightness of the task, visual comfort and efficiency increase. Present research indicates that the lowest acceptable brightness of any surface in the visual field should not be less than one-third the brightness of the task.

1302.023

The brightness of surfaces immediately adjacent to the visual task is more critical in terms of visual comfort and efficiency than that of more remote surfaces in the visual field. These adjacent surfaces have lower acceptable brightness limits than surfaces farther removed from the task. Present research indicates that surfaces immediately adjacent to the visual task should not exceed the brightness of the task.

1302.024

The brightness-difference between adjacent surfaces in the total visual field should be reduced to an acceptable minimum.

1302.025

The characteristics of any lighting system should be such that direct and reflected glare are not objectionable. If the brightness-difference produced by a lighting system is held within the limits stated in Goals 1, 2 and 3, direct and reflected glare will not be objectionable.

1302.026

Daylight and electric light systems should conform to the same brightness and brightness-difference goals, and both systems should be coordinated in design to assure the effective contribution of both.

1302.027

Any lighting system should be designed in such a manner that it will contribute to a cheerful, friendly and aesthetically pleasing instructional space environment.

1302.028

The brightness goals stated above assume an illumination level of range 30 to 150 foot candles on the reference task produced by combined radiant energy of daylight and any system of electric lighting used.

1302.03 Light Sources

1302.031

Electric lighting systems should be evaluated on the basis of the following items.

A. The lighting should produce a uniform distribution of shadow-free and glare-free illumination with the intensities necessary to maintain an acceptable brightness balance between the tasks and other surfaces within the total visual environment.

B. Consideration should be given to probable deterioration of service efficiency under prevailing conditions of school operation and maintenance.

C. Lighting fixtures should not produce a surface brightness on the fixture or on the ceiling that exceeds ten times the task brightness.

1302.032

Where daylight supplements artificial illumination, controls (preferably fixed) should be as follows.

A. Exclude direct sunlight and at the same time admit about 15 percent of the outdoor brightness.

B. Provide a surface free from excessive brightness or glare.

C. Permit ease of maintenance.

1302.04

Surfaces within rooms should be finished in accordance with the following items.

1302.041

Ceilings should provide a 70 to 90 percent reflection factor, flat, white surface.

1302.042

Upper walls (from wainscot or dado upward) should provide a surface with a reflection factor of at least 60 percent.

1302.043

Lower walls (from wainscot or dado downward) should provide a surface with a reflection factor of at least 60 percent.

1302.044

Where maintenance conditions permit, it is considered good practice to finish entire walls, from ceiling to floor, with surfaces having a 60 percent reflection factor.

1302.045

Finishes should be flat or matte on all interior surfaces, particularly at eye level or above.

1302.046

Trim should provide a surface with a 40 to 60 percent reflection factor.

1302.047

Desks and equipment should have finishes that fall within the 35 to 50 percent reflection factor range.

1302.048
Floor finishes should fall within the 30 to 50 percent reflection factor range.

1302.049
Chalkboards are available with practicable maximum reflection factors of 20 percent. This high factor range is practical only when the level of illumination is sufficiently high to overcome the loss in visibility due to reduced brightness-difference between chalk and the light colored board.

1303 SONIC ENVIRONMENT

The school facility is designed, constructed, equipped and maintained in a manner which provides for the control of sound within a particular space so that internal sound can be heard well and unwanted sounds are prevented from intruding from the outside environment.

1303.01 General

1303.011
A sonic engineer should be consulted when designing educational spaces.

1303.012
Although it is often impossible to prevent the creation of unwanted noises, it is both possible and practicable to prevent excessive noises which inhibit hearing and create distractions.

1303.02 Zoning

1303.021
The concept of zoning as related to sound engineering revolves about the basic premise that prevention is better than correction.

1303.022 Site
- A. Every effort should be made to acquire a site that has a relatively low ambient noise level.
- B. If a noisy site cannot be avoided, then it is necessary to locate the school's noisy activities nearest the outside noise source.
- C. Planting of trees, bushes and shrubs around the perimeter of the site, particularly on noisy sides, will provide added noise reduction.

1303.023 The Building
- A. It is important, where possible, to group noisy activities with other noisy activities, such as playgrounds, gymnasiums, music areas and shops.
- B. Administrative facilities, general instructional spaces, media centers and other similar areas should be grouped together in a quiet zone somewhat removed from noisy activities.

C. Intermediate between the two extremes may be typing or bookkeeping rooms where machines are used, the cafeteria and home economics facilities.
D. If these various activity levels are not adequately separated by space, then it is necessary to intercept these noises to the degree necessary to prevent them from conflicting with each other.

1303.024 Instructional and Service Facilities

A. Administrative Offices
   1. Noise reduction by treatment, in the form of absorbent materials, is invariably mandatory to keep speech levels low and to keep sound from office machines and traffic noise at a minimum.
   2. It is advisable to provide sound-intercepting barriers to keep noisy activities in some administrative rooms from interfering.

B. Corridors
   1. Unless adequate noise reduction treatment is provided in corridors, they act as communication channels conveying a sound or noise throughout the building.
   2. Acoustical treatment in such passageways should be placed on the ceiling and may also be placed on walls. Carpet is a good noise reducer.
   3. Undesirable noise may be reduced by proper attention to non-parallel floor or walk surfaces and ceiling surfaces.

C. Instructional Spaces
   1. Instructional spaces should be treated for noise reduction.
   2. The degree of sound interception requiring instructional space boundaries depends upon adjacent activities.
   3. In the case of certain business education rooms, noise reduction treatment is to be preferred over critical reverberation control, and the boundaries must have a higher degree of sound interception, particularly where such rooms are near or next to the more academic-type instructional spaces.

D. Media Center
   1. Noise reduction treatment, coupled with adequate sound interception, is a primary requisite in this area, where there may be disturbing and/or distracting sound from a nearby activity.

E. Shops
   1. Adequate noise reduction treatment is essential, and adequate interception should be provided in the boundaries.
   2. Where doors are left open, shop layouts must be oriented so that openings are away from academic and similar activities.

F. Cafeterias
   1. An environment with a somewhat critical reverberation control (with particular stress upon sound absorption in the high pitches) is desirable.
   2. Kitchens should have considerable noise reduction treatment because the noise from a reverberant kitchen can be conducted to the dining room area.

G. Gymnasiums
   1. An environment with a somewhat critical reverberation control is usually desirable.
   2. Where facilities are near quiet areas, adequate interception must be built into the boundaries.

H. Toilets
   1. Better-planned schools provide noise reduction treatment in rest rooms, as well as special sound interception measures within the room boundaries.

I. Music Rooms
   1. Choral, band and orchestral rehearsal rooms require critical reverberation control over a wide range of pitches.
   2. Maximum noise reduction is not the correct solution.
   3. For a discussion of criteria for the environment in rehearsal rooms, see Geerpes, Harold P, Planning and Equipping Educational Music Facilities, Reston: Music Educators National Conference, 1975.
   4. Individual practice rooms are usually most satisfactory when provided with maximum noise reduction treatment.
   5. Maximum sound interception is advisable.
   6. Special attention should be given to insure that strategic walls are not reduced in interception by the insertion of clocks, electrical outlets or ventilating grills.
   7. Ducts in ventilating systems should be given special treatment to prevent transmission of sound.

J. Auditoriums
   1. From the standpoint of noise control, the auditorium is one of the most critical rooms in the entire unit or plant.
   2. The level of noise (including that from the ventilating system, heating system, water supply and external sources) must be kept low.
   3. Adequate barriers must be provided to intercept sounds from such sources as traffic and mechanical equipment rooms.
   4. The proper acoustical environment of the auditorium is a highly scientific problem, therefore, technical assistance should be secured in order to provide a reasonable environment.

1304 SPATIAL AND AESTHETIC ENVIRONMENT

The school facility is designed, constructed, equipped and maintained in a manner which provides an efficient and attractive facility.

1304.01
It is usually recognized that an impression of beauty - the aesthetic aspect of conditioning spaces, both indoors and outdoors - should be the building's primary effect upon occupants and visitors.

1304.02
The school plant, when truly functional, is beautiful because it fulfills, not only a physical function, but also an emotional function.

1305 BALANCED CONDITIONING OF SPACES

1305.01
Designing to achieve adequate and economical conditioning of educational spaces must be done by persons highly specialized in each of the separate major fields involved.

1305.02
Factors involved in the conditioning of spaces for education include the following items.

A. Spatial
B. Thermal
C. Visual
D. Sonic
E. Aesthetic

1305.03
A crucial problem in good planning is to be aware of, and to guard against, the disposition of each design specialist to overdo the solution in his particular field. Balancing solutions among the specialized design fields becomes one of the most important responsibilities of the administrator and architect.

1305.04
Balance in providing adequate space, and in conditioning it for safety and educational usefulness, results from a defined and executed school district policy.

1305.05
School district policy should require, as a minimum, that school house conditioning be comparable to that used in non-school structures, such as homes, offices, government buildings, churches, clubs and lodge halls.

1305.06
If comparable structures generally do not meet acceptable criteria, then it may be that school conditioning should set an example.

1305.07

When balance is threatened by inadequate funds or high bids, a defensible procedure in making plan and specification cutbacks is one based upon priorities carefully established before the actual time for decisions. Such a list should also identify those provisions that should not be deleted nor seriously compromised because of their importance to the following items.

A. The safety, health and comfort of teachers and pupils
B. The operational success of the educational program
C. The protection of the investment in the building
D. The maintenance and repair budget

1305.08

Reductions in building areas should be made on the basis of complete facilities and services, rather than by reduction that is below good practice of the dimensions of facilities retained. Temporary elimination of some spaces is preferred to overall reduction in quality.

1305.09

The complexities of school planning require nothing less than the highest available architectural, engineering and technical competence in the various environmental areas if planners are to realize the long-term aims of comfort, efficiency, economy, as well as reduce the initial cost of construction.

1306 FIRE INSURANCE

1306.01

Some economy in the life-time operation and maintenance of a building may be achieved when future fire insurance assessments are considered in the planning stages.

1306.02 Items Affecting Insurance Premiums

A. The building's exposure to adjacent properties not under the jurisdiction of the Board of Education
B. The location and treatment of "hot spots" - potential hazards - within the building
C. The degree of internal and external protection, such as heat and smoke detectors, sprinklers, extinguishers and alarms strategically located, accessibility of hydrants and fire-fighting equipment
D. The degree of fire-resistance of component construction materials and of the building totally

1306.03

For new construction, insurance values and costs can be estimated by having plans and specifications reviewed by the ~~Insurance Service Offices of West Virginia~~ West Virginia Board of Risk and Insurance Management.

1307 ROOF SLOPES

1307.01

Unless waived in exceptional circumstances, all roof areas shall have a minimum slope of 1/4" per foot. This shall include roofs with built-up membrane, as well as single-ply membrane systems.

1400 RELATED INFORMATION - STATUTES

Reference: 8.

1400.01

School construction or improvement projects are frequently influenced or regulated by various statutes of the Code of West Virginia. Listed are sections with which school personnel should be familiar.

CHAPTER	ARTICLE	SECTION	SUBJECT
10	2	1-5	Public Recreation & Playgrounds
10	2A	1-26	Athletic Establishments
11	8	5-32	Levies
11	10	11d	Prerequisite to final settlement of contract with state or political subdivision; penalty
13	1	2-4	Bond Issues For Original Indebtedness
16	1	7	State Department of Health; Promulgation of rules and regulations
16	1	9	Supervision over local sanitation
18	3	9a	Authority of state superintendent as to fire hazards and safety of buildings
18	4	10	Duties (5): Close temporarily a school when conditions are detrimental to the health, safety or welfare of the pupils
18	4	11	Duties (3): Recommend for condemnation buildings unfit for school use
18	5	5	Exemption of school property from legal process & taxes
18	5	6	Validation of titles to land in possession of board
18	5	7	Sale of school property; oil and gas leases
18	5	8	Condemnation of land necessary for educational purposes
18	5	9	Schoolhouses, buildings and equipment
18	5	10	Approval of state board of plans & specifications for buildings
18	5	11	Joint establishment of schools
18	5	12	Bond of contractors
18	5	13	Authority of boards generally (consolidation: transportation of pupils)
18	5	13a	School closing or consolidation
18	5	25	Duties of superintendent as secretary of board (3) & (4)
18	5	36	Payment for fire services on public school property
18	6	1	Driver Education
18	9	1-7	School Finances

CHAPTER	ARTICLE	SECTION	SUBJECT
18	10F	1-6	Elimination of structural barriers in public buildings
21	5A	1-11	Wages for Construction of Public Improvements
29	3	1	State fire commission; protection against fire
29	12	5a	WV Board of Risk and Insurance Management
30	12	2	Use of title "architect", etc.
30	13	13	What plans of state political sub-divisions to be approved by registered engineer
38	2	39	Public buildings; bond of contractor; no lien in such case
47	5	1-3	Safety glazing material in hazardous locations
54	1	1-11	Eminent domain
54	2	1-20	Procedures for eminent domain
61	10	15	Pecuniary interest of county & district officers, teachers and school Officials in contracts; exception: offering or giving compensation; penalties

1401 INCLUSION OF PLANS IN COMPREHENSIVE EDUCATIONAL FACILITIES PLAN

1401.01

Regulations of the West Virginia Department of Education and West Virginia Code §18-9D-16 require all plans for new construction, ~~closings,~~ additions or renovations, closings and grade reconfiguraitons to be included in the Comprehensive Educational Facilities Plan (CEFP). The CEFP must be amended to include projects deemed necessary by the county board of education but not included in the original CEFP. This would also require an amendment to the Regional plan ~~through the SBA~~.

In order to ensure that the state board be fully informed about proposed amendments to comprehensive plans, the following conditions must be satisfied:

A. All requests for amendments to CEFPs, including budget amendments, must be signed by the county superintendent and must show the date such amendments were approved by the county board of education.

B. Changes in comprehensive plans may not be implemented prior to state Board of Education and, for those projects receiving SBA funds, SBA approval.

C. All amendments must be fully explained; however, substantive changes must be accompanied by complete justification with data addressing the subjects of enrollment, facilities, finance, personnel, transportation and educational programs.

D. The proposed amendments shall include evidence of citizen awareness of changes in the comprehensive plan.

E. Approval of the closure by the state Board of Education automatically amends the CEFP and the Regional CEFP. However, this does not assure SBA funding of a related project.

1401.02 Regional Comprehensive Educational Facilities Plan Approval Process

The RESA shall develop a preliminary regional CEFP that addresses the facility needs of each county in the region. The CEFP shall be in accordance with the regulations of the state Board of Education and the SBA.

1401.03 Submission of ~~Preliminary~~ Design Development Plans and Specifications for Individual Projects

Once the regional comprehensive plan has been approved, individual project planning should be implemented. Under statutory authority and regulations, approval of plans and specifications for the construction of new buildings, additions and renovations is required by the state Board of Education, the SBA when SBA funds are utilized, the West Virginia Department of Health, the West Virginia Department of Highways when new construction, and the state Fire Marshal's Office. ~~and the Division of Vocational Rehabilitation.~~ The following must be submitted: For new and SBA projects, a total of six (6) sets of plans and specifications, five (5) sets of plans and specifications for all other projects with SBA funds, four (4) sets of plans and specifications for any other projects, with the application for project approval (P-1 form - See Appendix B).~~must be submitted, five (5) sets with the P-1 to the State Board of Education and one set to the SBA~~ When SBA is involved, one set is submitted directly to the SBA and the balance of sets is submitted directly to the state Department of Education.

1401.04 Plan Review Process - ~~Preliminary~~ Design Development Plans

Plans will not be distributed to the state regulatory agencies unless the state Department of Education is in receipt of five sets of plans and specifications and the application for project approval (P-1). Following receipt of the ~~preliminary~~ design development plans, specifications, and the application for project approval, the state Department of Education will distribute them to the state regulatory agencies in the following manner.

A. One set of plans and specifications and the application for project approval is retained by the state Department of Education

B. One set of plans and specifications is forwarded to the West Virginia Department of Health

C. Two sets of plans and specifications is forwarded to the West Virginia Fire Marshal's Office

~~D. One set of plans and specifications is forwarded to the Division of Vocational Rehabilitation~~

ED. If new, one set of plans and specifications is forwarded to the West Virginia Department of Highways

E. If SBA funds are being utilized, one set is submitted directly from the county to SBA

1401.05 Interagency Review

Each month a meeting, conducted by the coordinator of school transportation and facilities ~~planning~~ of the state Department of Education, is held with representatives of the state regulatory agencies. Individual project plans and specifications are reviewed and discussed, and the comments of each agency reviewer are noted. Plans and specifications not received on or before the first Wednesday of the month will not be reviewed at the current month's meeting. These will be discussed at the next monthly meeting. Staffing of the state regulatory agencies is such that in many cases review cannot be accomplished within the 30 day time frame.

Therefore, in order to insure review and approval prior to planned construction, a 60 day period should be set aside for plan review. After the meeting, the county superintendent is notified of the status of his project. If all requirements have been met, the project is then recommended to the state Board of Education and the SBA for approval. Projects shall not be advertised or construction started until the plans and specifications are revised to conform with the review comments.

1401.06 Plan Review Process - Final Plans

The procedures outlined in 1401.03, 1401.04 and 1401.05 must also be followed in the submission of final plans.

1401.07 Capital Improvement Fund Accounting

A. A separate account shall be set up within the fiscal records of the individual county to account for all SBA funds, "net" or "need". All records shall be maintained pending final project or other audit.

B. Funds expended for a multi-county project shall be apportioned among the cooperating counties according to the formula indicated in the facilities plan. Distribution of the funds shall be to the county designated fiscal agent for the project.

C. To assist in proper budget coding, the following guidelines are to be utilized:

1. Budgets must be supplemented when a grant transfer letter is received from the School Building Authority of West Virginia. This letter notifies the county that monies were transferred from the state account to the county's account at United National Bank. For most counties, this will occur during FY 90.
2. Monies must be supplemented into the general current expenditure fund (fund 1).
3. All funds to be utilized for capital improvement regardless of the source are to be coded in project 25 utilizing the following code numbers:
   2501X - SBA Net Funds
   2502X - SBA Needs Funds
   2503X - Local Funds
   2504X - Federal Funds
   2505X - BSA Funds
   2509X - Other Funds

1402 CONTENT OF DOCUMENTS SUBMITTED FOR APPROVAL

1402.01

Preliminary project plans and outline specifications should include the following items.

A. Plot plan which includes size and shape of site, orientation, general topography, location of existing and new buildings, streets and highways, means of sewage disposal, and tentative development of the site
B. Floor plans showing existing and new buildings (minimum scale of 1/16 inch), type of wall, floor, partition, roof and stair construction, size and purpose of rooms, stairs, corridors, doors, windows, plumbing fixtures and built-in equipment, and probable future additions
C. Elevations, at least one side of the building, overall dimensions, finished floor and ceiling levels, finished outside grade level, windows, doors, steps, areas, retaining walls and materials
D. Sections explaining any conditions not made clear on other drawings
E. Proposed service connections, including gas, water, electricity and sewer, and location of wells and sewage disposal system, if any
F. Outline specifications to augment information shown on drawings
G. Description of how the current facility does not meet the following goals, and how the proposed project will meet them
    1. Student health and safety needs
    2. Economies of scale, including compatibility with similar schools that have achieved the most economical organization, facility utilization, and pupil-teacher ratios
    3. Reasonable travel time and practical means of addressing other demographic considerations
    4. Multi-county and regional planning to achieve the most effective and efficient instructional delivery system
    5. Curricular improvement and diversification, ie., computerization and technology, and advanced senior courses in science, math, language arts, and social studies
    6. Innovations in education, ie., community-based programs and year-round schools
    7. Adequate space for projected enrollment

1402.02 Final Plans and Specifications

These shall include the following:

A. Site or plot plan - size and shape of site, adjoining streets, highways and walks, position of existing and new buildings on the site, location and connections of all service lines, finish contours with finish grades at building and elevation of first floor rooms, location of wells and sewage disposal system, if any, general landscaping and location of walks, driveways, parking areas and exterior steps

B. Floor plans showing existing and new buildings (each floor and roof at not less than 1/8 inch scale), footings and foundations, dimensions and schedules showing type and size of each door and window, complete figures so that size and thickness of walls and partitions can be readily determined, level of finished floors, furred walls and ceilings, door swings, location of built-in equipment, floor construction, run, dimensions and spacing of joists and girders, notation of safe live loads, and materials

C. Elevations for all sides (same scale as architectural plans)

D. Sections (same scale, or larger, as that of floor plans), to show clearly special conditions, typical stairs, instructional spaces and corridors, equipment and fixtures, floor construction, levels and thickness, wall and ceiling construction, typical windows, interior and exterior doors, finish material, roof construction, fire barriers, and smoke pollution

E. Details (larger scale) showing typical exterior wall sections, footings, foundations, floors, windows, cornice and roof, all vertical dimensions, each type and size of door with glazing and paneling, frame and trim, each type of window, together with distances to floor and ceiling, stairs, including risers, treads, handrails, newels and landing lines, chalkboard, tackboard, trim, chalk troughs and heights, built-in equipment, counters, cupboards and drawers, and wardrobes, unless of standard manufacture

F. Plumbing plans, including foundation drain lines, storm and sanitary sewer lines, complete water supply system and location of all plumbing fixtures, including hose cabinets and sewage disposal system

G. Heating and ventilating plans showing size and type of heat unit, with all connections, pumps, all supply and return lines with sizes, valves and slopes, motors and fans, including types, periphery speed, capacity and air velocity in ducts, and locations, sizes and capacity of all ducts, grilles and ventilators

H. Electrical plans using standard symbols to show all connections, inside and outside, location of wall, floor and ceiling outlets or receptacles, location and size of all conduits, capacity of outlets, location and details of switch panels, circuit breakers and fusing, location and connections for all bells, alarms, clocks and special outlets, and types and designs of lighting fixtures

I. Structural plans showing all concrete and steel columns, beams, trusses, girders, joists, slabs and reinforcing, fireproofing of structural members, details, diagrams and schedules as required for a complete understanding of plans

J. Complete specifications augmenting the information shown on the drawing, giving details on construction materials and methods, mechanical equipment and installations and tests. In general, specify all window shades, toilet room accessories and lockers and all other permanent equipment forming an integral part of the building

1402.03 Application for Approval of Preliminary and Final Plans and Specifications (Form P-1)

1402.04 Exceptions Process

Local educational agencies may appeal any recommendation the joint interagency review committee or its professional staff makes. A final appeal of any committee decision to the state Board of Education is available to the local agency, which must notify by letter to the coordinator stating its intention. NOTE: Fire Code appeals must be made to the state Fire Commission.

1403 ARCHITECTURAL AREA AND VOLUME OF BUILDINGS

1403.01

The "Application for Approval" requires data on proposed buildings. The information is necessary for the Department to make space and cost comparisons and disseminate construction data to agencies and interested persons. If area and cubage data are to be valid in comparisons, the same method of computation must be used.

1403.02 Architectural Area of Buildings

A. The architectural area of a building is the sum of the areas of all floors of the building, including: basement, mezzanine, intermediate floored tiers and penthouse of headroom heights, measured from the faces of exterior walls or from the center line of walls separating buildings.

B. Covered walkways, open roofed-over areas that are paved, porches and similar spaces shall have the architectural area multiplied by an area factor of 0.50.

C. The architectural area does not include such features as pipe trenches, exterior terraces or steps, chimneys or roof overhangs.

1403.03 Architectural Volume of Buildings

The architectural volume (cube or cubage) of a building is the product of the total areas defined above times the height from the under side of the lowest floor construction system to the average height of the surface of the finished roof above.

1403.04 Energy Analysis

An analysis documenting the availability and costs of energy types and comparing various space conditioning systems shall be utilized as a basis for the selection of each. Also, an energy analysis to determine the BTU/Gross S.F./Year shall be submitted. The archictect/engineer may submit printouts of recognized computer programs to satisfy this requirement.

1404 STANDARDS FOR ARCHITECTURAL SERVICES

1404.01
The project architect will provide services, plans and specifications which may be executed within the project budget. It becomes the architect's responsibility to redesign a project at no cost to a board of education in order to come within the budget.

1404.02
It shall be the responsibility of the project architect to assure that the project meets the requirements of this policy and to assure the legitimacy of bidders. ~~as indicated in the "Grant Agreement and Project Contracts" document.~~

1404.03 Basis for Determining Architect's Fees

A. The architect's compensation for the basic services discussed above is usually based on one of the following methods:
   1. Percentage of construction cost of the work
   2. Fixed lump sum fee
   3. Professional fee plus reimbursement of expenses
   4. Multiple of direct personnel expense
   5. Salary, per diem or hourly rate
B. Counties may contact the SBA with questions concerning architectural services

1404.04 The Architect's Agreement
No services should be rendered by the architect without a definite understanding as to the scope of services and the fee basis. This contract is for the protection of both the client and the architect.

1405 TASKS PERFORMED IN SCHOOL BUILDING PROGRAMS

1405.01
Tasks listed are those generally performed during the completion of a satisfactory school building project. The sequence of tasks is not always the same, nor is the time allotment always the same.

1405.02
Care should be exercised by the owner (Board of Education) when undertaking any project to assure that all activities are in accordance with statutory and regulatory provisions and that the investment is adequately protected at all times.

1405.03
Particular caution is required in Phase V if the board is acting as its own contractor, or if maintenance employees are constructing the building or addition.

Approximate Time Allotted	Task	Responsibility
PHASE I	Anticipates School Building Needs	O
	Seeks Aid of Education Specialist	O
24 to 30 Weeks	Completes Preliminary Survey Determining Remodeling and Construction Needs	O-S
	Acts to Secure Funding	O
	Seeks Legal Counsel on Procedures to Secure Levy or Bond Monies (when applicable)	O
	Initiates Preparation of Educational Specifications	O
PHASE II	Seeks Architectural Services	O-S
	Seeks Construction Manager Service	O-S
	Preliminary and Final Screening of Architect & Construction Manager	O-S
	Selects Architect and Construction Manager	O-S
	Negotiates Architect and Construction Managers Contract	O-A-S-CM
12 to 20 Weeks	Sets Production Time Limits For Building Design & Construction	O-A-S-CM
	Verifies Availability of Utilities and Seeks Necessary Approvals	O-A-CM
	Reviews Potential Sites	O-A-S
	Selects and Acquires Sites	O
	Surveys Site and Performs Subsoil Investigations	O-A-CM

C - Contractor
O - Owner (Board of Education)
A - Architect
S - SBA Representative (when applicable)
E - Department of Education
CM - Construction Manager (when applicable)

Approximate Time Allotted	Task	Responsibility
PHASE II (cont'd)	Analyzes Educational Specifications and Establishes Building Program	O-A-S-CM
	Prepares Schematic Design Documents	A
	Reviews Schematic Design in Light of Educational Specifications	O-A-S
	Prepares Preliminary Estimate of Probable Construction Costs	A-CM
	Review Schematic Designs and Preliminary Cost Estimates	O-S
	Prepare Preliminary Design and Layout of Furniture and Equipment	O-A-S
	Prepares Design Development Documents	A
	Prepares Outline Specifications	A-CM
	Select Equipment	O-A
	Updates Preliminary Estimate of Probable Construction Costs	A-CM
	Submit Design/Development Document for Preliminary Approval by State Agencies	O-A-CM
	Confers on Design Development Review Comments	O-A-S-CM
	Revises Design Development Documents (if required)	A
	Approves Design Development Documents	O-S-E
	Authorizes Preparation of Final Plans and Specifications (Bidding & Construction Documents)	O-S

C – Contractor
O – Owner (Board of Education)
A – Architect
S – SBA Representative (when applicable)
E – Department of Education
CM – Construction Manager (when applicable)

Approximate Time Allotted	Task	Responsibility
PHASE III	Approves Special Consultant (if required)	O-A-S
	Confers on Project Specifics	O-A-S-E-CM
	Prepares Final Construction Drawings (Consisting of Drawings and Specifications)	A
16 to 24 Weeks	Prepares Final Estimate of Probable Construction Costs	A-CM
	Verifies Construction Time Limits	O-S-CM
	Submit Preliminary Application for Project Approval (P-1) and Final Documents for Approval of State Agencies and Owner	O-A
	Confers on Construction Documents	O-A-S-E-CM
	Revises Construction Documents (if required)	A
	Seeks Approval of Contract Documents by Legal Advisor (if required)	O
	Approves Final Construction Documents	O-E-S
PHASE IV	Advertises for Bids	O
	Issues Bid Documents	A
	Conducts Pre-Construction Meetings for Bidders	O-A-S-CM
	Receives Bids	O-A-S-CM
3 to 5 Weeks	Tabulates and Reviews Bids	O-A-S-CM
	Advises on Contract Award	A-S-CM
	Awards Construction Contract	O

C – Contractor
O – Owner (Board of Education)
A – Architect
S – SBA Representative (when applicable)
E – Department of Education
CM – Construction Manager (when applicable)

Approximate Time Allotted	Task	Responsibility
	Issues Notice to Proceed Letter to Contractor	A
PHASE V	Select Furniture	O-A-S-CM
	Reviews and Approves Shop Drawings and Submittals	A-CM
40 to 72 Weeks	Makes Adjustments and Corrections of Shop Drawings and Submittals (if required)	C-A-C
	Construction of Building	C-CM
	Conducts Timely Construction Progress Meetings	O-A-S-CM
	Reviews & Observes Construction	O-A-S-CM
	Prepares Field Observation Reports	A-S-CM
	Confers and Accepts or Rejects Construction Deviations	O-A-S-C-CM
	Approves Construction Certificates for Payment	O-A-S-CM
	Pays Construction Costs Monthly	O-S-C
	Reviews Construction Reports, Progress and Delays	O-A-S-CM
	Prepares and Signs Change Orders Requests	A-C-CM
	Approves and Countersigns Change Orders	O-CM
	Prepare List of Construction Deficiencies (Project Punchlist)	O-A-S-CM
	Accepts Building as Substantially Complete	O-A-S-CM

C – Contractor
O – Owner (Board of Education)
A – Architect
S – SBA Representative (when applicable)
E – Department of Education
CM – Construction Manager (when applicable)

1406 FINAL INSPECTION

1406.01

When a project is completed, the county must complete a Certification of Project Completion, form BP 13-A (See Appendix C) and deliver it to the coordinator of facilities planning, state Board of Education. If the amounts on the BP 13-A differ from the project budget amount in the regional CEFP, the plan must be amended in order to reconcile any difference. Following receipt of the BP 13-A, the appropriate agencies will contact the county and schedule a final inspection. A final inspection of completed construction shall also be conducted by the project architect, the contractor and the state Fire Marshal, and the SBA project representative when applicable. (NOTE: A certificate of occupancy must be acquired from the Fire Marshal's Office before any completed construction can be occupied).

1406.02

Upon completion of corrections and subsequent inspection, official final acceptance of the project will be made.

1406.03

For the sake of illustration, the following list contains items which should be examined during the final inspection to assure compliance with final plans and specifications. Examine for proper type, location, installation, finish, cleanliness, mounting heights and operation.

SITE AND DEVELOPMENT

Finish Grading
Landscaping
Drives
Fencing
Seeding
Walks and Ramps
Parking Areas with Curb Cuts
Playground

BUILDING EXTERIOR

Foundation
Window & Door Frames
Railings
Flashing
Drains
Wall Surfaces
Glass & Glazing
Roof Surface
Trim
School Name

BUILDING INTERIOR

Floor Surfaces
Ceiling Surfaces
Doors & Frames
Thresholds
Chalkboards
Wood & Metal Trim
Wall Surfaces
Acoustical Materials
Door Hardware
Window Hardware
Tackboards
All Surface Finishes

PLUMBING, WATER, GAS

Fixtures
Cleanouts
Special Toilets
Shutoffs
Drainage System

ELECTRICAL SERVICE

Switches & Plates
Lighting Fixtures
Clock & Program Systems
Telephone Systems
Runs
Panels
Fire Alarm System
Heating & Ventilating
Equipment
Controls
Emergency Lighting

EQUIPMENT AND FURNISHINGS

Lockers
Refrigeration
Display Cases
Elevators
Extinguishers
Fountains
Kitchen Equipment

1500 STANDARDS FOR EXISTING FACILITIES

The following standards are required for all existing facilities in operation during the 1985-86 school year and thereafter.

1500.01
Buildings, grounds, furnishings and equipment are clean and free from debris.

1500.02
Buildings, grounds, furnishings and equipment are free from observable safety hazards.

1500.03
The county board of education has reviewed the most recent reports of state regulatory agencies and has a plan for corrective action.

1500.04
The county board of education has a policy on the efficient use of energy.

1500.05
All toilet facilities must contain hot and cold water mixing faucets in workable condition and individual stalls with doors on all toilets. Soap, paper towels and toilet tissue must be available to students at all times. All toilet entrance doors must be self closing.

1500.06
All custodian's closets must contain service sinks with hot and cold water.

1500.07
All schools must be attractively painted and illuminated in a manner which most effectively contributes to an environment of visual accuracy and comfort.

1500.08
The county board of education has a policy providing for the eradication and/or containment of asbestos in public school facilities and has on file in each school facility an approved asbestos management plan for that school.

1500.09
The heating, ventilating and air-conditioning systems in all school facilities are maintained in a manner that provides maximum comfort and economy.

1500.10
Adequate drinking fountains in workable condition are available to the school population.

1500.11
The county has on file with the state Department of Education an approved comprehensive educational facilities plan.

1500.12
The county's comprehensive educational facilities plan is properly amended before any renovation, addition or new construction is started.

1500.13
Renovations, additions and new construction are completed in accordance with the Handbook on Planning School Facilities.

1500.14
The exterior of the building, including windows, doors and roof, is free of air and water infiltration.

Appendix A--Attachment #1

Sample Time Line Projections (100.016)

Johnson County Schools
Facility Planning Time Line Projections
Dates indicate years projects are to start.

1990	Addition	Smithson Elementary School
	Renovation	Walters Elementary School
1991	Roof Replacement	Clark Jr. High School
1992	New Construction	East Johnson High School
1993		
1994	Rest Room & Kitchen Modernization	Edison Elementary School
	Multi-purpose Room	Washington Elementary School
1995		
1996	Consolidation/ Addition	Roane Elementary closed - James Elementary Addition
	Consolidation	Close Ellison and Spangler Elementary Schools - Move to Smithson Elementary School
1997		
1998	Addition	West Johnson High School
1999	Renovation/ Addition	William Bryant Junior High School

1100r/37&38a

SCHOOL BUILDING AUTHORITY OF WEST VIRGINIA

AND

WEST VIRGINIA DEPARTMENT OF EDUCATION

FACILITY CLASSIFICATION FORM

COUNTY: _____ DATE: _____

FACILITY NUMBER	FACILITY NAME	CURRENT ENROLLMENT	CURRENT GRADE CONFIGURATION	CLASSIFICATION	DESCRIBE FUTURE USE TRANSITIONAL FACILITIES

SCHOOL CLASSIFICATION CATEGORIES

P = Permanent: A school facility that is to be utilized throughout the 10 year planning period without a change in its present use or grade configuration.

T = Transitional: A school facility that is projected to be utilized throughout the 10 year period but will experience a change in its grade configuration or use.

F = Functional: A school facility that is projected for closure in 1995 or thereafter during the 10 year planning period.

C = Closure: A school facility that is projected for closure before 1995.

SBA/WVDE - 116
0168a/35&36c
Rev. 12/11/90

APPENDIX B

WEST VIRGINIA DEPARTMENT OF EDUCATION
AND
SCHOOL BUILDING AUTHORITY OF WEST VIRGINIA
APPLICATION FOR PROJECT APPROVAL

West Virginia Department of Education
Capitol Complex, Bldg. 6, B-252
Charleston, West Virginia 25305

School Building Authority of West Virginia
1601 Kanawha Boulevard, West, Suite 202
Charleston, West Virginia 25312

COUNTY _____
SCHOOL NAME _____
LOCATION _____

ESTIMATED STARTING DATE _____
ESTIMATED COMPLETION DATE _____
GRADES HOUSED _____ ENROLLMENT _____

PROJECT DESCRIPTION _____

SITE ACRES _____ USEABLE ACRES _____
ENERGY EFFICIENCY (BTU/Sq.Ft./Yr) _____
WATER SOURCE _____

GROSS BUILDING AREA NEW CONSTRUCTION _____
SQ. FT. AFFECTED BY THIS PROJECT _____
SEWAGE DISPOSAL TYPE _____

SITE ITEM	PRELIMINARY ESTIMATE	FINAL COST	FINAL UNIT COST (Per Sq. Ft.)
GENERAL REQUIREMENTS (A/E, Legal, Etc.)			
SITE ACQUISITION			
SITE WORK (Geotech, Grading, Paving, Etc.			
CONCRETE (Ftg./Foundations, Slabs, Etc.)			
MASONRY			
METALS (Str. Stl., Jt., Deck)			
CARPENTRY			
THERMAL & MOISTURE PROTECTION			
DOORS AND WINDOWS			
FINISHES (Floors, Walls, Ceilings, Painting)			
SPECIALTIES (Chalkbd, Tbd., Locker, Toil Acc.			
EQUIPMENT (Food Service, Etc.)			
FURNISHINGS (Seating, Casework, Etc.)			
SPECIAL CONSTRUCTION			
CONVEYING SYSTEMS (Elevators, Etc.)			
MECHANICAL (HVAC, Plumbing, Etc.)			
ELECTRICAL			
OTHERS (Describe)			
SUBTOTALS			
BONDING			
UTILITY SOURCE			
NET NEED			
FEDERAL SOURCE			
GRAND TOTALS			

AGENCIES APPROVALS	RECEIVED	APPROVED	RECEIVED	APPROVED	RECEIVED	APPROVED
STATE DEPARTMENT OF HIGHWAYS						
STATE DEPARTMENT OF HEALTH						
STATE FIRE MARSHAL						
SCHOOL BUILDING AUTHORITY						
STATE BOARD OF EDUCATION						

_____
Signature of Architect or Engineer

_____
Signature of County Superintendent

SBA P-1
Rb/35&36a
12/11/90

WEST VIRGINIA DEPARTMENT OF EDUCATION

SEMI-ANNUAL FINANCIAL REPORT

CUMULATIVE EXPENDITURE BREAKDOWN

COUNTY: _____

DATE: JAN. 31, 19____
JULY 31, 19____

PROJECT NUMBER	SCHOOL/ LOCATION	LOCAL BOND PROCEEDS	BSBA	FEDERAL	PERMANENT IMPROVEMENT	SBA	SBA NEEDS	OTHER	TOTAL

Notes:

This cumulative report includes all facilities where capital improvements have been made since January 1990 regardless of the funding source.

WDE 1038 1396r/39&41a
Rev. 12-11-90

APPENDIX C

WEST VIRGINIA DEPARTMENT OF EDUCATION AND SCHOOL BUILDING AUTHORITY OF WEST VIRGINIA

CERTIFICATE OF PROJECT COMPLETION

Upon completion of a facilities project, submit duplicate copies to the State Department of Education and the School Building Authority to initiate close-out procedures.

County	_____	Substantial Completion Date	_____
Project/School Name	_____	Final Inspection Date	_____
Project Number	_____	Fire Marshal - Date of Occupancy Permit (If Required)	_____
Enrollment	_____		
# Teaching Stations	_____		

SOURCES OF FUNDS:		SUMMARY OF PROJECT DATA:	
State Funds		Sq. Ft. in Building	_____
SBA "Net"	$_____	Site Acquisition	$_____
SBA "Needs"	$_____	Site Preparation	$_____
Local Funds (Bond)	$_____	Building Construction Costs - Total	$_____
Local Funds (Other)	$_____	* Renovation Costs	$_____
Vocational (State)	$_____	Building Construction Costs-Per Sq. Ft	$_____
Vocational (Fed)	$_____	Building Renovation Costs-Per Sq. Ft	$_____
Federal (Other)	$_____	Moveable Equip. Cost	$_____
Other Funds (List)	$_____	A & E Fees	$_____
_____		** Miscellaneous Costs	$_____
_____			
_____			
TOTAL FUNDS	$_____	TOTAL PROJECT COSTS	$_____

*A project may include both new construction/addition and renovation costs.
**Geotech, Site Survey, Deed Search, Technology Equipment (Explain on Back)

_____ _____
Architect Date

_____ _____
Contractor/Construction Manager Date

_____ _____
Clerk-of-the-Works Date

_____ _____
County Superintendent Date

***Inspected this date by a representative of the School Building Authority or the West Virginia Department of Education. A signed copy of this report will be sent to the local board of education once all signatures are affixed.

_____ _____
Signature Date

***SBA funded projects must have a final inspection by an SBA representative.

WVDE BP-13-A
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Rev. 12-11-90

SCHOOL BUILDING AUTHORITY OF WEST VIRGINIA
AND
WEST VIRGINIA DEPARTMENT OF EDUCATION

COMPREHENSIVE EDUCATIONAL FACILITY PLAN
APPLICATION FOR AMENDMENT

To be submitted through the Regional Educational Service Agency (RESA)
Do not include more than one (1) project per application form

RESA: _____ COUNTY: _____ DATE: _____

Project Location/Number: _____ Present Enrollment: _____

Total Cost of the Project: $_____

Date Project Originally Submitted to RESA: _____

Funding Source: (LOCAL/BOND) _____ (BSBA) _____ (STATE/OTHER) _____

(LOCAL/OTHER) _____ (SBA NET) _____ (SBA NEEDS) _____ (FEDERAL) _____

A. BUDGET AMENDMENTS FOR PREVIOUSLY APPROVED PROJECT:

Include a revised Exhibit A (SBA 101) to include all county projects and to specifically reflect the new project expenditures requested in this amendment. Attach a brief description explaining the need to adjust the present budget.

1. Amount of total project budget previously approved $_____
2. Amount of SBA budget previously approved $_____
3. Amount of the amendment to this project budget $_____
4. Total amount of this project if amendment is approved $_____

B. AMENDMENT TO ADD NEW PROJECT:

Attach a brief description of the project in detail. For example, how will the facility be altered, added to or improved?. Also state why the amendment is being requested and include the following as appropriate: enrollment projections; facility evaluations; financial plans; personnel plans; transportation and educational programs; & other information.

Date Amendment Approved by County Board of Education

_____

_____
Signature: County Superintendent

Date Amendment Presented to RESA Board of Directors

_____

_____
Signature: RESA Executive Director

FOR RESA USE ONLY

Amendment Number: _____ CEFP Number: _____

FOR SBA AND WVDE USE ONLY

Project Number: _____ SBA/WVDE Approval Date: ___/_____

Previous Budget Approved $_____ Revised Budget Approved $_____

SBA/WVDE 106 1442r/81&82r
Rev. 3/21/91

WEST VIRGINIA DEPARTMENT OF EDUCATION

AMENDED SCHOOL BUILDING PROGRAM BUDGET

County: _____ Date: _____

*(N) New (A) Addition (R) Renovation

NUMBER	SCHOOL & DESCRIPTION*	APPROVED BUDGET	AMENDED BUDGET	SBA FUNDING	STATE FEDERAL VOCATIONAL	LOCAL BOND	LOCAL LEVIES	OTHER LOCAL FUNDS

1920r/0220r

WVDE Form BP-10-A
Rev. 3/25/91

SCHOOL BUILDING AUTHORITY OF WEST VIRGINIA
EXHIBIT A
PROJECT FUNDING SUMMARY

COUNTY: _____ DATE: _____

(Please provide project number, brief description and cost for each project)

NUMBER	SCHOOL	DESCRIPTION	PROJECT COST	SBA GRANT	OTHER FUNDS

Report all projects funded by any resource, SBA or other.

SBA 101 1457r/81&82r
Rev. 3/21/91

REFERENCES

1. A Master Plan for Public Education, West Virginia Board of Education, Charleston, West Virginia, 1982-83.

2. Guide for Planning Educational Facilities, The Council of Educational Facilities Planners International, 20 West Woodruff Avenue, Columbus, Ohio 43210.

3. West Virginia Board of Education - Policy 2510, Charleston, West Virginia,
1984.

4. American National Standards Institute, Inc., 1430 Broadway, New York, New York 10018, 1980.

5. National Flood Insurance Program, Federal Emergency Management Agency, 105 South Street, Liberty Square Building, Philadelphia, Pennsylvania 10506.

6. Section 504 - Rehabilitation Act of 1973 (29 U.S.C. 794), Department of Health, Education and Welfare, Washington, D.C.

7. West Virginia Board of Education - Policy 2419, Charleston, West Virginia, 1983.

8. School Laws of West Virginia, 1984.

9. Building Officials and Code Administrators International - Basic Building Code (B.O.C.A.), 17926 South Halsted Street, Homewood, Illinois 60430.

10. Southern Building Code, 900 Montclair Road, Birmingham, Alabama 25213.

11. West Virginia State Fire Code, Rules and Regulations of the West Virginia
State Fire Commission, Charleston, West Virginia, 1984.

12. Life Safety Code 101 and National Fire Code, National Fire Protection Association, Batterymarch Park, Quincy, Massachusetts 02269, 1981.

13. National Electrical Code - Supplement A, National Fire Association, Batterymarch Park, Quincy, Massachusetts 02269, 1981.

14. Climatological Data for West Virginia, National Climatic Data Center, Asheville, North Carolina.

15. American Society of Heating, Refrigeration and Air-Conditioning Engineers, Inc., Atlanta Georgia.

16. Energy Consumption Guidelines for Educational Facilities, West Virginia Governor's Office of Economic and Community Development, Fuel and Energy Office, Charleston, West Virginia.

17. Lighting Handbook, Illiminating Engineering Society, 1860 Broadway, New York, New York.

WEST VIRGINIA BOARD OF EDUCATION
RESOLUTION
SCHOOL CONSOLIDATION AND STUDENT TRANSPORTATION

WHEREAS, many school systems in West Virginia are having financial difficulty in balancing operating budgets; and

WHEREAS, student enrollments statewide are continuing to decline; and

WHEREAS, consolidation of schools provides counties the potential to reduce costs by reducing the number of facilities and more efficiently utilizing personnel; and

WHEREAS, many students live in the rural, sparsely populated areas of West Virginia; and

WHEREAS, there appears to be a concern that consolidation may result in students spending an inordinate amount of time in transit to school; and

WHEREAS, the statutory responsibility for approval of school closures lies within the purview of the West Virginia Board of Education.

THEREFORE BE IT RESOLVED BY THE WEST VIRGINIA BOARD OF EDUCATION AS FOLLOWS:

The West Virginia Board of Education recognizes that there may be cases where consolidation of schools can be viewed as a positive action. Decisions about specific proposals to consolidate schools will be based upon whether consolidation reflects the following three priorities:

1. Improves educational programs for students.
2. Avoids inappropriate increases in travel time.
3. Achieves efficient utilization of personnel.

In general, the West Virginia Board of Education will consider more favorably, when necessary, well-documented proposals which involve significant extension of travel time for older students, that is, middle school, junior high school and high school age students.

However, the West Virginia Board of Education will review very carefully proposals which involve additional transportation time for younger students, that is, early childhood, primary or elementary age, in order to determine the potential impact on students and whether the consolidation is reasonable and practical.

The West Virginia Board of Education agrees to include, as part of its legislative program, requests to increase funding for schools in sparsely populated areas where consolidation of early childhood and primary grade students is not feasible due to unreasonable travel time and conditions.

BE IT FURTHER RESOLVED, that this resolution be made a part of the official minutes of the board.

Adopted unanimously on this date,
March 9, 1990

Virgil C. Cook

Virgil C. Cook, President
West Virginia Board of Education

RESPONSE FORM
HANDBOOK ON PLANNING SCHOOL FACILITIES
POLICY 6200
REVISION - 1992
SCHOOL TRANSPORTATION AND FACILITIES

Directions: Please use this form in commenting on the 1992 revision for Handbook on Planning School Facilities Policy 6200. Deadline for receipt of comments is June 18, 1992.

Individual/Organization _____

Address _____

_____

GENERAL COMMENTS	COMMENTS AND SUGGESTIONS

RETURN TO:

Cecil C. Dolin, State Director
School Transportation and Facilities
West Virginia Department of Education
Building 6, Room 264
1900 Kanawha Boulevard East
Charleston, West Virginia 25305-0330

2378r