Workgroup on Educational Development Specifications

Materials for discussion

A. Topics #1 & #3: MSDE Facilities Design Guidelines and IAC Square Footage Allocations (Maximum Gross Area Allowances (MGAAs) and proposed State Funding Participation Baselines (SFPBs)

1. Definitions of Key Facilities Data Elements (NCSF, 2015)
2. Life-Cycle Cost Analysis from (NIBS, 2010) as an example of a life-cycle analysis tool used in calculating Total Cost of Ownership (TCO).
3. Recent Life-cycle Cost Studies 2014-2017 (MSDE, 2017) to show examples of the costs of construction vs. operations and maintenance.
4. Arkansas Code section requiring that LEAs spend nine percent of operating funds on maintenance and operations of public-school facilities.
5. COMAR sections requiring gymnasiums and health suites in schools.
6. List of spaces typically found in high schools but not in elementary and middle schools, and percentage estimates of such space.
7. Space Requirement Differences
Definitions of Key Facilities Data Elements

For the purposes of classifying expenditures and budgeting, facilities-related activities should fall into one of the six following categories regardless of funding source.

<table>
<thead>
<tr>
<th>PLANNING—Determining What Is Needed</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>The identification and maintenance of the next steps—including funding sources and planning coordination with 'outside' entities—that are required to most efficiently and effectively provide the facilities necessary to adequately support the institution's intended outcomes.</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Long-term capital planning</th>
<th>The creation of comprehensive plans, often looking out further than five years, for the funding, establishment, acquisition, maintenance, and disposal of school facilities deployed to meet a district’s needs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Short- or near-term capital planning</td>
<td>The creation of detailed plans to meet a district’s needs during the upcoming five years. Such plans include preliminary or pre-design project information such as educational specifications, potential sites, facility/building(s), budgets, and timelines.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ACQUISITION—Obtaining the School Facility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Activities that result in a facility or asset becoming available in a like-new condition to a school district.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Acquisition of Land</th>
<th>Obtaining the use of land through purchase in fee simple or through lease-purchase (lease duration must be longer than one year), including environmental, legal, and other activities required to make the land usable for its intended purposes.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acquisition of Facilities</td>
<td>Obtaining a preexisting facility through purchase in fee simple or lease-purchase (lease duration must be longer than one year). Includes costs associated with eminent domain (including purchase of rights-of-way); and tax or special assessment foreclosure.</td>
</tr>
<tr>
<td>Construction of New or Replacement Facility</td>
<td>Construction of a new or replacement campus, including support infrastructure—both on-site and off-site—such as water, sewer, drainage, gas, power, access roads, etc. Includes all steps from planning to occupancy that are necessary to achieve a facility that has an initial lifespan of 30 or more years before comprehensive renewal would be required to gain back the learning and operational advantages of a new facility.</td>
</tr>
<tr>
<td>Renewal of Existing Facility (Full Modernization)</td>
<td>Renovation of an entire campus to like-new condition (equal to an Facility Condition Index* of 15% or lower) during a period of time not to exceed four years, including its support infrastructure both on-site and off-site.</td>
</tr>
</tbody>
</table>

* The Facility Condition Index figure is derived by dividing the estimated cost to repair a complete facility to a like-new condition by the estimated current replacement (new) cost of a facility of the same class and type.
ALTERATION—Permanent Facility Modification

Building addition, renovation, modernization, or other major modification to a school campus that may add or reduce capacity and otherwise supports the facility’s function but is insufficient to renew the facility (see Acquisition).

NONPERMANENT ADDITION—Adding Temporary Capacity

Augmentation of the capacity of a facility through the installation of portable classrooms or similar assets—along with associated support systems—that are not permanent. (When deinstalled, any recovered value remaining in the portable assets should be deducted from this account code).

MAINTENANCE—Tending the School Facility

The work required to keep a facility (plant, building, structure, ground facility, utility system, or other real property) in such condition that it may be fully functional and continuously utilized for its expected lifespan, for its intended purpose, and at its maximum energy efficiency. Includes both routine and capital maintenance.

<table>
<thead>
<tr>
<th>Routine Maintenance</th>
<th>Facility System(s) &amp; Component(s) Renewal (Capital Maintenance)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Routine, preventive, predictive, and emergent unscheduled tasks and repairs required to ensure that a facility functions according to its design and for its expected lifespan. Includes scheduled inspections, record keeping, equipment servicing, replacement of lamps and filters, replacement of failed equipment components such as motors, pumps and switches, responding to calls for emergency repairs, patching holes, and repairing furniture and fixtures.</td>
<td>Major repair, alteration, and replacement of building systems, equipment, finishes and components, including their removal and disposal. These system and component renewals occur more often at the end of a building system’s or equipment’s useful life. They will sustain or extend the useful life of the entire facility but are insufficient to result in the facility becoming “like new.” Includes improvement of roadways and drainage; replacement of playing fields, roofs, HVAC systems, windows, and doors; structural repairs; and installation or replacement of long-life assets in a facility such furniture, fixtures, and equipment.</td>
</tr>
</tbody>
</table>

OPERATIONS—Supporting Occupancy Needs

The services required to keep a facility clean, sanitary, and tidy such that its occupants are comfortable, healthy, and productive. Includes the provision of utilities such as fuel, electricity, water, and sewerage; support services to assist occupants; and disposal and recycling of unnecessary structures, equipment, and trash.

<table>
<thead>
<tr>
<th>Short-Term Lease</th>
<th>Utilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>A lease for 1 year or less.</td>
<td>The energy, water, communications, and waste disposal services purchased to enable the operation of a school facility. Includes but is not limited to electricity, natural gas, liquid propane, oil, water, sewerage, telephone, Internet access, recycling, and trash disposal services.</td>
</tr>
<tr>
<td>Services</td>
<td>Description</td>
</tr>
<tr>
<td>--------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Custodial Services</td>
<td>The day-to-day janitorial and grounds tasks necessary to keep a facility sanitary, polished, and tidy. Includes trash removal, cleaning, waxing, weed removal, trimming, mowing, irrigating, snow and ice removal, and otherwise caring for school facilities and grounds. Also includes non-cleaning tasks such as opening the school, checking for vandalism, and identifying safety and maintenance needs.</td>
</tr>
<tr>
<td>Support Services</td>
<td>Routine and non-routine work tasks to support occupant functions. Includes responding to teachers’ and principals’ requests; setting up spaces for special activities and events; ordering and delivering supplies; raising and lowering the flag; and management of equipment for physical-education and athletic activities.</td>
</tr>
<tr>
<td>Demolition and Disposal of Facilities</td>
<td>End-of-life removal of assets including furniture, equipment, and buildings. Includes spot removal of any unsafe product such as lead or asbestos as well as cleanup of spills, mold, and other contaminants. Does not include demolition, disposal, or environmental cleanups as part of facility acquisition (construction or replacement of a new facility, or renewal of an existing facility) or capital maintenance.</td>
</tr>
</tbody>
</table>
Life-Cycle Cost Analysis (LCCA)

by Sieglinde Fuller

National Institute of Standards and Technology (NIST) (http://www.nist.gov/index.html)

Last updated: 06-28-2010

INTRODUCTION

Life-cycle cost analysis (LCCA) is a method for assessing the total cost of facility ownership. It takes into account all costs of acquiring, owning, and disposing of a building or building system. LCCA is especially useful when project alternatives that fulfill the same performance requirements, but differ with respect to initial costs and operating costs, have to be compared in order to select the one that maximizes net savings. For example, LCCA will help determine whether the incorporation of a high-performance HVAC (http://www.wbdg.org/resources/hvac.php?r=lcca) or glazing system (http://www.wbdg.org/resources/windows.php?r=lcca), which may increase initial cost but result in dramatically reduced operating and maintenance costs, is cost-effective or not. LCCA is not useful for budget allocation.

Lowest life-cycle cost (LCC) is the most straightforward and easy-to-interpret measure of economic evaluation. Some other commonly used measures are Net Savings (or Net Benefits), Savings-to-Investment Ratio (or Savings Benefit-to-Cost Ratio), Internal Rate of Return, and Payback Period. They are consistent with the Lowest LCC measure of evaluation if they use the same parameters and length of study period. Building economists, certified value specialists, cost engineers, architects, quantity surveyors, operations researchers, and others might use any or several of these techniques to evaluate a project. The approach to making cost-effective choices for building-related projects can be quite similar whether it is called cost estimating (http://www.wbdg.org/design/utilize_management.php), value engineering (http://www.wbdg.org/design/use_analysis.php), or economic analysis (http://www.wbdg.org/design/use_analysis.php).

DESCRIPTION

A. Life-Cycle Cost Analysis (LCCA) Method

The purpose of an LCCA is to estimate the overall costs of project alternatives and to select the design that ensures the facility will provide the lowest overall cost of ownership consistent with its quality and function (http://www.wbdg.org/design/func_oper.php). The LCCA should be performed early in the design process while there is still a chance to refine the design to ensure a reduction in life-cycle costs (LCC).

The first and most challenging task of an LCCA, or any economic evaluation method, is to determine the economic effects of alternative designs of buildings and building systems and to quantify these effects and express them in dollar amounts.
B. Costs

There are numerous costs associated with acquiring, operating, maintaining, and disposing of a building or building system. Building-related costs usually fall into the following categories:

- Initial Costs—Purchase, Acquisition, Construction Costs
- Fuel Costs
- Operation, Maintenance, and Repair Costs
- Replacement Costs
- Residual Values—Resale or Salvage Values or Disposal Costs
- Finance Charges—Loan Interest Payments
- Non-Monetary Benefits or Costs

Only those costs within each category that are relevant to the decision and significant in amount are needed to make a valid investment decision. Costs are relevant when they are different for one alternative compared with another; costs are significant when they are large enough to make a credible difference in the LCC of a project alternative. All costs are entered as base-year amounts in today's dollars; the LCCA method escalates all amounts to their future year of occurrence and discounts them back to the base date to convert them to present values.

*Initial costs*

Initial costs may include capital investment costs for land acquisition, construction, or renovation and for the equipment needed to operate a facility.

*Land acquisition costs* need to be included in the initial cost estimate if they differ among design alternatives. This would be the case, for example, when comparing the cost of renovating an existing facility with new construction on purchased land.

*Construction costs:* Detailed estimates of construction costs are not necessary for preliminary economic analyses of alternative building designs or systems. Such estimates are usually not available until the design is quite advanced and the opportunity for cost-reducing design changes has been missed. LCCA can be repeated throughout the design process if more detailed cost information becomes available. Initially, construction costs are...
## RECENT LIFE CYCLE COST STUDIES

### 2014-2017

<table>
<thead>
<tr>
<th>LEA</th>
<th>School</th>
<th>Consultant</th>
<th>Date</th>
<th>Annual Operating Cost/ gsf</th>
<th>Annual Maintenance cost/ gsf</th>
<th>Annual Utility Cost/ gsf</th>
<th>Total Baseline Cost/ gsf</th>
<th>Annual Operating Cost/ gsf</th>
<th>Annual Maintenance cost/ gsf</th>
<th>Annual Utility Cost/ gsf</th>
<th>Total Baseline Cost/ gsf</th>
<th>Interest over 40 years</th>
<th>Inflation</th>
<th>Other Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>AACPS</td>
<td>Arnold ES</td>
<td>G + P</td>
<td>3/19/2014</td>
<td>$4.30</td>
<td>$2.23</td>
<td>$6.53</td>
<td>$4.05</td>
<td>$2.10</td>
<td>$6.15</td>
<td>5%</td>
<td>estimated gsf - reno = 82,954; repl = 84,372</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AACPS</td>
<td>Manor View ES</td>
<td>SEI</td>
<td>9/17/2014</td>
<td>$0.03</td>
<td>$1.34</td>
<td>$1.37</td>
<td>$0.28</td>
<td>$1.28</td>
<td>$1.56</td>
<td>5%</td>
<td>estimated gsf - reno = 75614; repl = 73,814</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>City</td>
<td>Calvin M. Rodwell EMS</td>
<td>Design Collective</td>
<td>2/5/2016</td>
<td>$2.75</td>
<td>$2.15</td>
<td>$4.90</td>
<td>$2.50</td>
<td>$2.00</td>
<td>$4.50</td>
<td>5%</td>
<td>based on est. MEP costs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>City</td>
<td>Calverton EMS</td>
<td>JRS</td>
<td>5/31/2016</td>
<td>$3.96</td>
<td>$1.61</td>
<td>$5.57</td>
<td>$3.96</td>
<td>$1.61</td>
<td>$5.57</td>
<td>interest on outstanding debt unknown; maintenance cost 3% per year; utility cost 1.5% per year; not including energy or replacement of systems</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BalCo</td>
<td>Colgate ES</td>
<td>Murphy &amp; Dittenhafer</td>
<td>12/21/2016</td>
<td>$4.50</td>
<td>$1.98</td>
<td>$6.48</td>
<td>$4.05</td>
<td>$1.98</td>
<td>$6.03</td>
<td>5%</td>
<td>excludes specialized exhaust and makeup air systems for lab and tech shop areas</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Carroll</td>
<td>CTE Center</td>
<td>Hord/Coplan/ Macht</td>
<td>1/10/2017</td>
<td>$4.55</td>
<td>$2.22</td>
<td>$6.77</td>
<td>$4.05</td>
<td>$1.98</td>
<td>$6.03</td>
<td>5%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>City</td>
<td>Bay Brook EMS</td>
<td>JRS</td>
<td>1/26/2017</td>
<td>$3.96</td>
<td>$1.61</td>
<td>$5.57</td>
<td>$3.96</td>
<td>$1.61</td>
<td>$5.57</td>
<td>interest on outstanding debt unknown; maintenance cost 3% per year; utility cost 1.5% per year; not including energy or replacement of systems</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BalCo</td>
<td>Berkshire ES</td>
<td>GWWO</td>
<td>2/1/2017</td>
<td>$5.00</td>
<td>$2.75</td>
<td>$7.75</td>
<td>$4.35</td>
<td>$2.15</td>
<td>$6.50</td>
<td>5%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mont.</td>
<td>Potomac ES</td>
<td>Moseley</td>
<td>1/00/2017</td>
<td>$2.50</td>
<td>$1.48</td>
<td>$3.98</td>
<td>$2.50</td>
<td>$1.48</td>
<td>$5.98</td>
<td>Costs in 2014 dollars</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Howard</td>
<td>Talbott Springs ES</td>
<td>TCA</td>
<td>9/8/2017</td>
<td>$4.30</td>
<td>$2.10</td>
<td>$6.40</td>
<td>$4.05</td>
<td>$1.98</td>
<td>$6.03</td>
<td>NA</td>
<td>NA</td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>
Arkansas Code Annotated § 6-21-808(d) requiring a set-aside of 9% of operating funding for maintenance of public school facilities:

(1)

(A) Each school district shall dedicate nine percent (9%) of its foundation funding exclusively to payment of utilities and costs of custodial, maintenance, repair, and renovation activities, which include related personnel costs, for public school facilities.

(B)

(i) If any amount of the dedicated nine percent (9%) is unspent at the end of the school district's fiscal year, the funds shall carry over, and the school district shall transfer the remaining amount into a public school facilities escrow account.

(ii) A school district may use funds from its public school facilities escrow account in any fiscal year for payment of utilities and costs of custodial, maintenance, repair, and renovation activities, which include related personnel costs, for public school facilities.

(iii)

(a) If a school district wants to use funds from its public school facilities escrow account for new construction, the school district shall apply to the Division of Public School Academic Facilities and Transportation for its approval.

(b) If the division authorizes the release of funds from the school district's public school facilities escrow account and approves the new construction, the school district may use the funds as authorized by the division.

(2)

(A) A school district is not required to use funds in its public school facilities escrow account for new construction.

(B)

(i) New construction shall be funded by local resources, which may include funds in the school district's public school facilities escrow account if approved by the division.

(ii) In addition, new construction may be eligible for state financial participation.
.05 Facilities Required in Public Schools

A. School Health Services. School health services shall be provided in designated health facilities consistent with COMAR 13A.05.05.10.

B. Physical Education Program.

(1) Scope. This section applies only to schools:

(a) Built and occupied, or renovated and occupied, after January 1, 2013; and

(b) For which a request for proposal for the selection of an architectural and engineering design consultant for construction or renovation was initiated after July 1, 2010.

(2) Purpose of Facilities. The facilities required in this section are to support the Physical Education instructional program required in COMAR 13A.04.13.

(3) Design Guidelines. The design of facilities required in this section shall be based on voluntary guidelines approved by the State Board of Education for physical education programs.

(4) The following minimum spaces are required:

(a) Gymnasium;

(b) Teacher office or planning area;

(c) Equipment storage area or areas;

(d) Outdoor instructional playing field; and

(e) Outdoor instructional hard surface area.

(5) Waiver.

(a) The local superintendent of schools may request a waiver of all or part of this section based on design constraints due to:

(i) Size of the school site;

(ii) Configuration of the school site; and

(iii) Zoning.

(b) The State Superintendent of Schools may waive all or part of this section.

(c) The waiver decision of the State Superintendent of Schools may be appealed to the State Board of Education.
.10 School Health Services Standards — Health Facilities.

A. Health Suite.

(1) School buildings constructed or renovated and occupied after January 1, 1993 shall provide a handicapped-accessible space that, at a minimum, includes space for waiting, examination and treatment, storage, and resting. There shall be a separate room for private consultation and for use as a designated school health services professional's office. Toilets, a lavatory, and a telephone shall be in the health suite. Locked file cabinets shall be available for storing health records and for medications.

(2) Schools occupied before January 1, 1993 shall provide space for use as the designated school health professional's office and shall meet the standards in §A(1), above, to the maximum extent possible. At a minimum, a lavatory and a telephone shall be easily accessible. Locked file cabinets shall be available for storing health records and for medications.

(3) A designated school health services professional shall be involved at the local level in the planning of health areas in new schools and in the modernization of old schools. A designated school health services professional at the State level shall be available as necessary for consultation.

B. Screening Facilities.

(1) A room shall be provided for hearing screening tests. This room shall meet the following criteria:

(a) The screening room shall be as quiet as possible;

(b) Areas near fans or air conditioners, hall traffic, playground or street traffic, group activities, bathrooms, lunchrooms, office equipment, refrigerators, or snack machines shall be avoided;

(c) Excess noise, such as talking, paper shuffling, and moving furniture, shall be avoided;

(d) The room shall be uncluttered and free of visual distractions.

(2) Space and lighting requirements for the specific vision test used shall be made available.
<table>
<thead>
<tr>
<th>Space Type</th>
<th>MSDE RECOMMENDATIONS</th>
<th>U N I T</th>
<th># TS or Rms</th>
<th>874</th>
<th>Net Square Footage Not in MS</th>
<th>Net Square Footage Not in ES</th>
</tr>
</thead>
<tbody>
<tr>
<td>General-Use Classrooms</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Seminar Rooms (for use by humanities, science, etc.)</td>
<td></td>
<td></td>
<td>2</td>
<td>400</td>
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<tr>
<td>Specialty Classrooms—Science</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Science - Student Project Area (MSDE: min 1 per school at 300 sf)</td>
<td></td>
<td></td>
<td>2</td>
<td>360</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Specialty Classrooms—Arts Education</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Music - Band/Orchestra Spaces</td>
<td></td>
<td></td>
<td>1</td>
<td>1,170</td>
<td>1,170</td>
<td></td>
</tr>
<tr>
<td>(MSDE: recc 1 min; 30 cap use 39 sf/st; 48+ cap use 30 nsf/st)</td>
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<tr>
<td>Music - Group Practice room (Ensemble)</td>
<td></td>
<td></td>
<td>0</td>
<td></td>
<td></td>
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<tr>
<td>Music - Uniform Storage</td>
<td></td>
<td></td>
<td>1</td>
<td>200</td>
<td></td>
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</tr>
<tr>
<td>Performance Space - Auditorium (7,000 sf + (13sf*students/3))</td>
<td></td>
<td></td>
<td>1</td>
<td>10,788</td>
<td>9,788</td>
<td>9,788</td>
</tr>
<tr>
<td>Video Production/ Engineering</td>
<td></td>
<td></td>
<td>1</td>
<td>700</td>
<td>700</td>
<td>700</td>
</tr>
<tr>
<td>Drama - Teaching Space/ Black Box Theater (MSDE: recc 1 min)</td>
<td></td>
<td></td>
<td>1</td>
<td>1,400</td>
<td>1,400</td>
<td>1,400</td>
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<tr>
<td>Dance - Studio (MSDE: 1 min; 18-20 students; 100 nsf/student)</td>
<td></td>
<td></td>
<td>0</td>
<td></td>
<td>1,800</td>
<td>1,800</td>
</tr>
<tr>
<td>Dance/Drama - Office(s) (MSDE: recc 2 min)</td>
<td></td>
<td></td>
<td>1</td>
<td>50</td>
<td></td>
<td>50</td>
</tr>
<tr>
<td>Dance - Storage (MSDE: 2 min; 350 nsf for dance)</td>
<td></td>
<td></td>
<td>1</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>Specialty Classrooms—Digital Experience Space</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Digital Experience - Classroom</td>
<td></td>
<td></td>
<td>1</td>
<td>750</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Specialty Classrooms—Career &amp; Technical Education (CTE)</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>CTE - Medium Lab Programs (Construction Professions, Medical, Cosmetology, Network, Hospitality, Graphics)</td>
<td></td>
<td></td>
<td>2</td>
<td>7,000</td>
<td>7,000</td>
<td>7,000</td>
</tr>
<tr>
<td>CTE - Small Lab Programs (Business Mgmt and Finance, Law/Criminal Justice, Teacher Academy, Construction Design and Mgmt)</td>
<td></td>
<td></td>
<td>2</td>
<td>3,000</td>
<td>3,000</td>
<td>3,000</td>
</tr>
<tr>
<td>ROTC Program Suite (NOT counted as part of CTE)</td>
<td></td>
<td></td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Student Support Resource Rooms</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Guidance Counselor Offices</td>
<td></td>
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<td>4</td>
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<td>Guidance Waiting</td>
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<td>1</td>
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<tr>
<td>Guidance Conference</td>
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<td>Career Center</td>
<td></td>
<td></td>
<td>1</td>
<td>300</td>
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<tr>
<td>Physical Education</td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>PE - Gymnasium (MSDE: 10,000 nsf in guideline not incl bleachers)</td>
<td></td>
<td></td>
<td>1</td>
<td>10,000</td>
<td>3,200</td>
<td>6,500</td>
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<tr>
<td>PE - Gym Bleachers</td>
<td></td>
<td></td>
<td>291</td>
<td>2,331</td>
<td>1,078</td>
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<tr>
<td>PE - Specialized Smaller TS (strength training, aerobics)</td>
<td></td>
<td></td>
<td>1</td>
<td>1,200</td>
<td>300</td>
<td>1,200</td>
</tr>
<tr>
<td>PE - Classroom (health, wellness, nutrition)</td>
<td></td>
<td></td>
<td>1</td>
<td>750</td>
<td>750</td>
<td>750</td>
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<tr>
<td>PE - Athletic team rms</td>
<td></td>
<td></td>
<td>2</td>
<td>1,200</td>
<td>1,200</td>
<td>1,200</td>
</tr>
<tr>
<td>PE - Dressing/locker rms (separate male &amp; female)</td>
<td></td>
<td></td>
<td>874</td>
<td>2,623</td>
<td>2,623</td>
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<tr>
<td>Food Services</td>
<td></td>
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<td></td>
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<td></td>
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<tr>
<td>Student Serving Area</td>
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<td></td>
<td></td>
<td></td>
<td>1,100</td>
<td>450</td>
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<tr>
<td>Kitchen TOTAL for Full Food Prep (MSDE: 1400 capacity; not include staff lockers, recycling, can wash)</td>
<td></td>
<td></td>
<td></td>
<td>2,800</td>
<td>1,100</td>
<td>1,400</td>
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<td>Building-Support Spaces</td>
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<tr>
<td>Maintenance/Janitorial Space</td>
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<td></td>
<td>874</td>
<td>874</td>
<td>404</td>
<td>504</td>
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<tr>
<td>General Storage including textbook storage (excludes lockers, janitorial, kitchen, classroom, administrative storage)</td>
<td></td>
<td></td>
<td>874</td>
<td>874</td>
<td>404</td>
<td>504</td>
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<tr>
<td>TOTAL NSF</td>
<td></td>
<td></td>
<td>95,473</td>
<td>35,448</td>
<td>46,031</td>
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</tbody>
</table>

Percentage of HS NSF that is not in MS or ES, respectively: 37% 48%
Title 13A
State Board of Education

HELPFUL INSTRUCTIONS:
Click on the subtitle number to be taken directly to that subtitle or scroll down the page for subtitle and chapter information and select the link for the regulations in that chapter.

Subtitles:
01 STATE SCHOOL ADMINISTRATION
02 LOCAL SCHOOL ADMINISTRATION
03 GENERAL INSTRUCTIONAL PROGRAMS
04 SPECIFIC SUBJECTS
05 SPECIAL INSTRUCTIONAL PROGRAMS
06 SUPPORTING PROGRAMS
07 SCHOOL PERSONNEL
08 STUDENTS
09 NONPUBLIC SCHOOLS
10 HOME INSTRUCTION
11 PROGRAMS FOR ADULTS WITH DISABILITIES
12 CERTIFICATION
13 MARYLAND INFANTS AND TODDLERS PROGRAM
14 CHILD AND FAMILY DAY CARE
15 FAMILY CHILD CARE
16 CHILD CARE CENTERS
17 CHILD CARE—LETTERS OF COMPLIANCE
18 LARGE FAMILY CHILD CARE HOMES

Subtitle 01 STATE SCHOOL ADMINISTRATION
13A.01.01 State Board of Education
13A.01.02 State Superintendent of Schools
13A.01.03 State Department of Education
13A.01.04 Public School Standards
13A.01.05 Appeals to the State Board of Education

Subtitle 02 LOCAL SCHOOL ADMINISTRATION
13A.02.01 Local Boards of Education
<table>
<thead>
<tr>
<th>Year</th>
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<tr>
<td>1998, Current Version 2017</td>
<td>13A04.15.01 Requirements for Fine Arts, Gymnasium, Health Suite, and Media Center</td>
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<td>1999, Current Version 2011</td>
<td>13A04.15.01 Requirements for Fine Arts, Gymnasium, Health Suite, and Media Center</td>
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<td>2000, Current Version 2008</td>
<td>13A04.15.01 Requirements for Fine Arts, Gymnasium, Health Suite, and Media Center</td>
<td>2000, Current Version 2008</td>
<td>13A04.15.01 Requirements for Fine Arts, Gymnasium, Health Suite, and Media Center</td>
</tr>
</tbody>
</table>

COMAR Title 13A contains regulations related to and promulgated by the State Board of Education. However, content and student service requirements that are interpreted to require spaces for the only directly required facilities are Gymnasiums and Health Suites, both in COMAR 13A 12.01.01

Space Differences: 2011 vs 1962

Art, Music, Dance, Health, and Physical Education. The only directly required facilities are Gymnasiums and Health Suites, both in COMAR 13A 12.01.01.
THE CHANGING SCOPE OF SCHOOLS

Hillsmere Elementary School, 1967

Germantown Elementary School, 2011

Anne Arundel County Public Schools

21st Century School Facilities Commission
August 25, 2016
David Lever, Executive Director, Interagency Committee on School Construction

Benfield Elementary School
1962
SRC 548
42,234 gsf
77 gsf/student

Germantown Elementary School
2011
SRC 685
89,998 gsf
131 gsf/student

Anne Arundel County Public Schools
13A.02.02 Emergency Plans
13A.02.03 Local Administrative and Supervisory Staff
13A.02.04 Tobacco-Free School Environment
13A.02.05 Maintenance of Effort
13A.02.06 General Financial Aid to Local School Systems
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13A.03.02 Graduation Requirements for Public High Schools in Maryland
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13A.03.06 Universal Design for Learning
13A.03.07 Maryland Seal of Biliteracy Program

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13A.04.04 Religious Education
13A.04.05 Education That is Multicultural
13A.04.06 Program of Instruction in Personal Financial Literacy
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13A.04.14 Program in English Language Arts/Literacy
13A.04.15 Digital Learning
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13A.04.17 Environmental Education
13A.04.18 Program in Comprehensive Health Education
13A.04.19 Program in Cosmetology
13A.04.20 Program for Barbers

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13A.05.10 Automated External Defibrillator Program in Middle Schools and High Schools
13A.05.11 Juvenile Services Education
13A.05.12 Hearing Aid Loan Bank

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13A.06.02 Prekindergarten Programs
13A.06.03 Interscholastic Athletics in the State
13A.06.04 Corollary Athletic Programs
13A.06.05 School Supplies and Equipment
13A.06.06 Safety Equipment
13A.06.07 Student Supplies
13A.06.08 Head Injuries and Concussions in Extracurricular Athletic Event
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13A.07.04 Evaluation of Professionally Certificated Personnel
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13A.12.05 Suspensions and Revocations
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13A.14.03 Administrative Hearings—Family Day Care Homes - Transferred to 13A.15.14
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13A.15.05 Home Environment and Equipment
13A.15.06 Provider Requirements
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13A.15.08 Child Supervision
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13A.17.06 Staff Requirements
13A.17.07 Child Protection
13A.17.08 Child Supervision
13A.17.09 Program Requirements
13A.17.10 Safety
13A.17.11 Health
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13A.17.13 Adolescent Facilities
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13A.18.05 Home Environment and Equipment
13A.18.06 Provider and Staff Requirements
13A.18.07 Child Protection
13A.18.08 Child Supervision
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13A.18.11 Health
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