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SCHOOL SITE STANDARDS AND SITE SELECTION.
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THIS REPORT PRESENTS ELEMENTARY AND SECONDARY SCHOOL SITE DEVELOPMENT DATA COMPILED BY THE DIVISION OF EDUCATIONAL FACILITIES PLANNING, NEW YORK STATE EDUCATION DEPARTMENT. ENROLLMENT FIGURES USED REPRESENT THE ULTIMATE SIZE OF THE SCHOOLS. THE STANDARDS ARE MINIMUM FOR THE STATE OF NEW YORK WITH ELEMENTARY SCHOOL SITES BASED ON THREE ACRES PLUS ONE ACRE FOR EACH 100 PUPILS ENROLLED, WITH A MINIMUM OF FIVE ACRES AND 600 STUDENTS BEING THE MAXIMUM SIZE. THE 7-12 AND K-12 ARE BASED ON TEN ACRES PLUS ONE ACRE FOR EACH 100 PUPILS. INCLUDED IN THE STUDY IS A GRAPH SHOWING THE RATIO OF ENROLLMENT TO USABLE ACRES AND A MATRIX FOR SUCH SITE SELECTION FACTORS AS SIZE AND LOCATION, SHAPE AND CONTOUR, ELEVATION, HAZARDS, SAFETY AND HEALTH, PURCHASE PRICE AND DEVELOPMENT COSTS. (GM)

THE UNIVERSITY OF THE STATE OF NEW YORK
THE STATE EDUCATION DEPARTMENT
DIVISION OF EDUCATIONAL FACILITIES PLANNING
ALBANY, NEW YORK 12224

School Site Standards and Site Selection

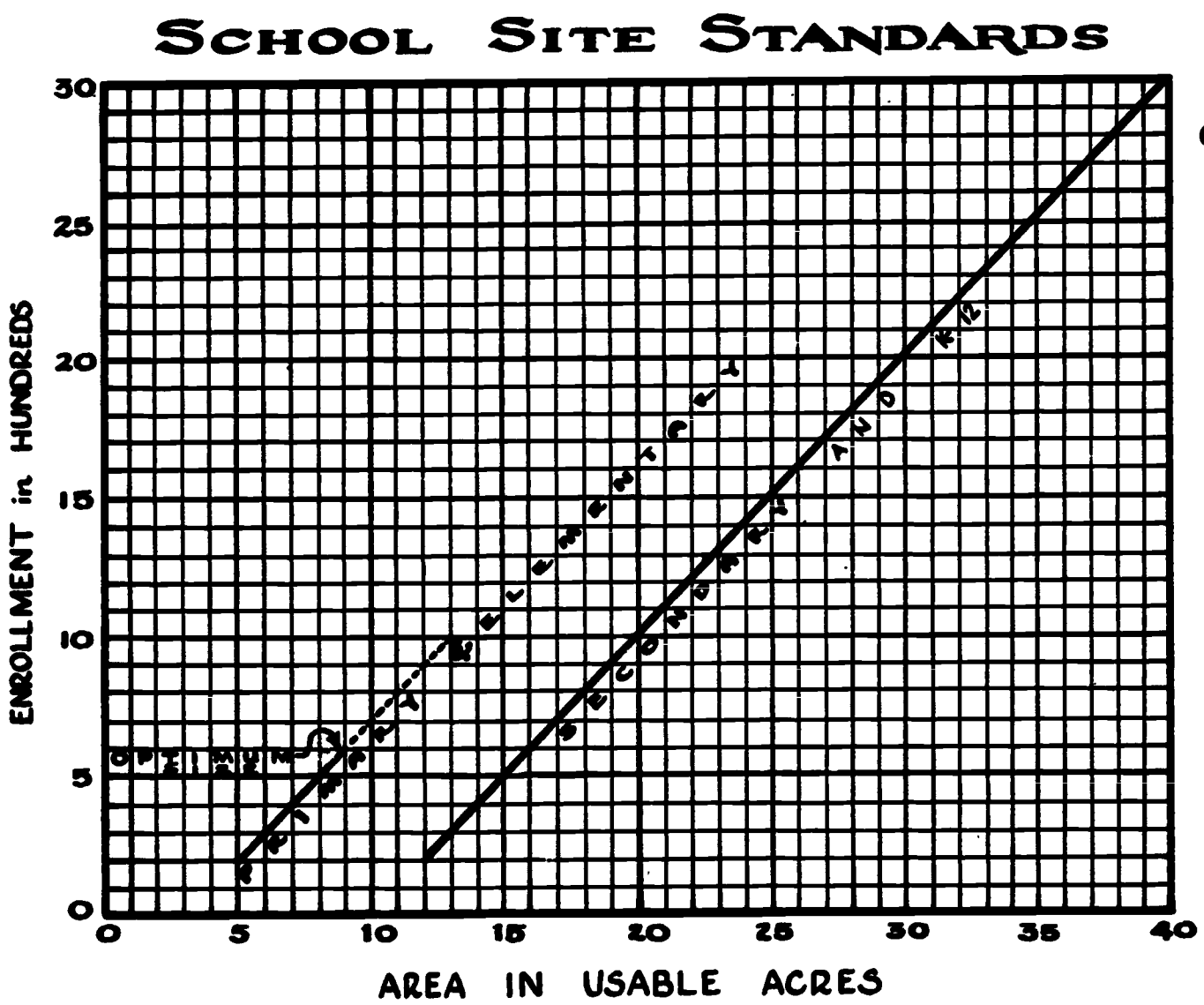
Section 408, paragraph 3, of the Education Law, reads as follows:

The commissioner of education shall approve the plans and specifications, heretofore or hereafter submitted pursuant to this section, for the erection of any school building or addition thereto or remodeling thereof on the site or sites selected therefor pursuant to this chapter, if such plans conform to the requirements and provisions of this chapter and the regulations of the commissioner adopted pursuant to this chapter in all other respects; provided, however, that the commissioner of education shall not approve the plans for the erection of any school building or addition thereto unless the site has been selected with reasonable consideration of the following factors; its place in a comprehensive, long-term school building program; area required for outdoor educational activities; educational adaptability, environment, accessibility; soil conditions; initial and ultimate cost.

Graph I below shows the size standards which have been developed by the Division of Educational Facilities Planning, New York State Education Department, for both elementary and secondary school sites. The enrollment figure used represents the ultimate size of the school. These standards are minimum and below those published by the National Council on Schoolhouse Construction, with adjustments made for small schools. The elementary site line is based on 3 acres plus 1 acre for each 100 pupils enrolled, with a minimum of 5 acres. It should be noted that an elementary school of about 600 enrollment is the recommended optimum size. The 7–12 and K–12 line is based on 10 acres plus 1 acre for each 100 pupils.

In developed areas, it is recognized that districts will, in many cases, encounter extreme difficulty in meeting these standards, particularly for elementary schools. In those cases, adjustments can be made.

This graph relates only to the size of the site. Other factors such as educational suitability, location, environment, elevation, contour, soil conditions, and initial and ultimate costs must be considered.



Graph I

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An understanding of school site acreage requirements is essential to proper site selection. The following tables present hypothetical situations to demonstrate how school site acreage requirements are determined. Table I analyzes the basic requirements for typical elementary schools with pupil enrollments of 200, 600, and 800. Table II deals with typical secondary schools having populations of 1,000, 1,500, and 2,000 pupils.

In the preparation of these tables, the following assumptions have been made:

a. All the acreage is usable.
b. The shape of the site is satisfactory.
c. The building is of moderate open-plan design — not one of widely separated campus units. All the buildings are considered to be one-story except the 2,000-pupil secondary school, which is two-story.
d. No extra space has been planned for nature study, picnics, driver education, ski slopes, golf driving ranges, agriculture, conservation, grandstands, or field houses.
e. Many of the outdoor areas will have dual use.
f. Only modest community parking areas are provided on the secondary school sites — large spectator gymnasiums and/or auditoriums would require larger parking fields.

No provision has been made for building additions or for the additional outdoor physical education acreage required for this added pupil population.

Table I. *Basic acreage requirements for typical elementary schools*

Required for:	200 Pupils Square Feet	200 Pupils Acres	600 Pupils Square Feet	600 Pupils Acres	800 Pupils Square Feet	800 Pupils Acres
Building[a]	200 × 90 sq. ft. = 18,000	½	600 × 90 sq. ft. = 54,000	1¼	800 × 90 sq. ft. = 72,000	1¾
Approaches (drives, walks, and service areas)		½		1¼		1¾
Grounds		1		1½		1½
Parking[b]	10 *teachers and admin.* 10 *visitors* 20 × 300 sq. ft. = 6,000	⅛	30 *teachers and admin.* 15 *visitors* 45 × 300 sq. ft. = 13,500	¼	40 *teachers and admin.* 20 *visitors* 60 × 300 sq. ft. =18,000	½
Outdoor physical education						
Kindergarten[c]	5,000	⅛	10,000	¼	10,000	¼
Primary[d]		¾		1½		2
Upper elementary[e]						
Apparatus		¼		¼		¼
Courts		¼		¼		½
Organized games		2		3		4
Total recor mended		5½		9½		12½
Minimum acceptable usable acreage in New York State School Site Standards (see graph I)		5		9		11

[a] Enrollment times reasonable square feet per pupil
[b] Day-to-day parking — no provision for extended community use
[c] Fenced-in kindergarten play area
[d] Circle games, apparatus, running and chasing, and hard-surface areas
[e] Court area — volleyball, handball, drop-ball; organized team games — touch football, soft ball, soccer, speedball

Table II. *Basic acreage requirements for typical secondary schools*

Required for:	1,000 Pupils Square Feet	1,000 Pupils Acres	1,500 Pupils Square Feet	1,500 Pupils Acres	2,000 Pupils Square Feet	2,000 Pupils Acres
Building[a]	1,000 × 120 sq. ft. = 120,000	3	1,500 × 120 sq. ft. = 180,000	4	2,000 × 120 sq. ft. = 240,000 (two-story)	5½
Approaches (drives, walks, and service areas)		3		3½		4
Grounds		2		2		2
Parking[b]	50 *teachers and admin.* 15 *visitors* 50 *students* 200 *community*		70 *teachers and admin.* 20 *visitors* 75 *students* 250 *community*		100 *teachers and admin.* 30 *visitors* 100 *students* 275 *community*	
	315 × 300 sq. ft. = 94,500	2	415 × 300 sq. ft. = 124,500	3	505 × 300 sq. ft. = 151,500	3½
Outdoor physical education						
Boys' inst. and intramural[c]		3		5		7
Girls' inst. and intramural[d]		2½		4		5½
Boys' interschool[e]		4		4		6
Courts[f]		1		1½		2
Total recommended		20½		27		35½
Minimum acceptable usable acreage in New York State School Site Standards (see graph I)		20		25		30

[a] Enrollment times reasonable average square feet per pupil
[b] Day-to-day parking and community parking for spectator sports, assemblies, PTA, multiple use for wet-weather play area
[c] Organized team games — touch football, soccer, speedball; conditioning activities
[d] Organized team games — field hockey, softball, speedball; conditioning activities
[e] Track and field activities, baseball, football, soccer, lacrosse
[f] Multi-use court area for tennis, volleyball, basketball, wet-weather class instruction

NOTES: In the selection of a school site, the architect employed by the district should be consulted. At that time he may bring in his landscape architect or site planner for additional technical assistance.

It is recommended that before purchase of a site the Division of School Buildings and Grounds be contacted for possible site inspections and that the proposed site or sites be approved by the Division. Forms entitled "Report on Proposed School Site" are available through the Division for this purpose.

A quick evaluation of several sites can be made by checking the applicable spaces in the "Table of Site Selection Factors." Several factors enter into selecting a school site, some of which are more important than others. Only the ideal site is satisfactory in respect to all the features that are being considered. The following table contains some of the essential factors. Others that may be important should be added. Each feature should be appraised as either satisfactory or unsatisfactory. The final decision as to whether a site is acceptable or not should be based upon a relative consideration of all the factors. There will be instances when, if a particular characteristic is unsatisfactory, the site must be rejected.

Table III. Site Selection Factors

Fill in site designation ☞ FACTORS CONSIDERED	*Site A*		*Site B*		*Site C*		*Site D*	
	S	U	S	U	S	U	S	U
1. Size and location An elementary school site should be near the center of pupil population which the school serves. The trend in population growth should be taken into account. Care should be taken that the site chosen is not located on a busy highway which would expose children to unusual traffic hazards in going to and from school. For a high school, a central location is not nearly so important. It is becoming customary for a district to select a high school site rather remote from the center of population. Acreage is considered much more important than a central location.								
2. Shape and contour 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 ideal 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.								
3. Elevation The elevation of the site should be such that there is no danger of flooding, and should be above the surrounding water table in order to permit proper subsoil draining and, also, construction of a sewage disposal field in cases where there is no adequate municipal system.								
4. Hazards High-voltage electrical lines are considered hazardous and must not cross any usable portion of the site. Existing gas transmission lines and location of future lines must be investigated. School buildings must be constructed at a safe distance from such lines. Transmission lines convey gas under various pressures. Higher pressures require greater distances separating the building from the transmission lines. (See Public Service Commission regulations regarding gas transmission.) In areas in which airports or defense installations are located, care and study should be given to flight patterns as a measure of safety. Help may be secured from the Bureau of Aviation, New York State Department of Commerce.								

Table III. Site Selection Factors (Concluded)

Fill in site designation ☞ FACTORS CONSIDERED	Site A		Site B		Site C		Site D	
	S	U	S	U	S	U	S	U
5. Safety and health The environment should provide safe and healthful conditions for the pupils, as well as freedom from disturbing noises, obnoxious odors, and traffic hazards. Location of future highway construction and future road improvement should be investigated prior to the selection of a school site. Information may be obtained from the New York State Department of Public Works and local highway authorities.								
	S	U	S	U	S	U	S	U
6. Cost: Purchase price and development Cost of land varies greatly in various parts of the State. For this reason, comparisons between districts are often misleading. To determine whether or not a site is reasonable in terms of the going price for property in the area, it is wise to consult real estate appraisers and/or other persons familiar with the locality. Original cost should be considered in conjunction with ultimate development cost to make a realistic evaluation of the true cost of the proposed site. The subsoil of a site should provide good drainage and a proper base for economical and substantial foundations for the building. No building should be designed until the subsoil conditions have been determined for the entire area of the building by adequate test borings or pits made under the direction of an experienced architect or engineer. Soil tests are particularly important for schools that must provide their own sewage disposal system. If the district must furnish its own water supply, provide its own sewage disposal system, take care of extensive drainage problems, and do considerable grading and filling, the cost of these items should be considered as a part of the ultimate cost of the site. The sewage disposal system must meet the requirements of the State Health Department. Therefore, field representatives of that department should examine the site to determine whether sewage disposal facilities are available or can be made available. This should be done before funds are authorized for purchase of the property.								
7.	S	U	S	U	S	U	S	U
8.	S	U	S	U	S	U	S	U

Conclusions

1. When the total acreage required for the specific functions shown in tables I and II is compared with the New York State site standards, it is found that, in each case, the minimum standards call for less acreage than is actually desirable.
2. In view of the great expansion in school construction which has taken place and promises to continue in the future, it is important to provide sufficient site not only for the current educational program but also for the future. Adding acreage to an existing site in the future is usually very costly — if at all possible. The site is the least expensive portion of the building program, but this relationship becomes much less advantageous as the surrounding areas develop and the price of land or land improvements approaches a prohibitive figure.
3. The major acreage requirement for school sites is dictated by the outdoor physical education program. The building acreage requirements run from approximately 10 per cent to 15 per cent of the size of the entire site. The requirements for approaches, drives, parking, and grounds are more than twice the area required for the building.
4. Choice of a site adequate for future needs results in long-range school building economy.
5. New York State school site standards are *minimum*. They are below or only equal to those of the majority of other States.
6. ***Wherever possible, it is advisable to exceed the minimum acreage standards shown in graph I.***

For further details regarding a school site, see pamphlets, "The School Site and Development of School Grounds" (No. 14).

Notes