

Swampscott Schools Master Plan
Pre-Kindergarten – 8th Grade

INTRODUCTION

Background

The small town of Swampscott is located on the coast just North of Boston. Although literally in sight of the City, in many ways it maintains the character, charm and ambiance of a New England seaside village. The central part of the Town was designed and laid out by the noted 19th-century landscape architect Frederick Law Olmstead, best known for his design of New York City's Central Park and Boston's "Emerald Necklace". The Town's total area is 6.7 square miles of which 3.0 square miles is land and 3.7 is water. The Town is home to approximately 14,600 residents in 11,600 dwelling units (5,700 single-family residences and 5,900 apartment and condominium units), of which approximately 15% contain families with children under 18. The lack of economy of scale for such a small town supporting its own police, fire, library, schools, water/sewer, maintenance and administration is particularly burdensome, as the tax base remains essentially fixed, state aid has diminished and general costs have increased sharply.

Swampscott has traditionally held high expectations and high aspirations for its public schools. The system is one of the defining characteristics of the Town's fine reputation. The town's current public school population is approximately 2360 students in five schools – one pre-school (adjunct to the middle school), three elementary schools (K-4/5), one middle school (5-8) and one high school (9-12). Recently a decade-long process culminated in the opening of a new High School at the Essex Street site in 2006. During the years of design and approvals connected to this project, the elementary and middle school components of the system "took a back seat". To address this issue, the Swampscott Master Plan Committee (SMPC) was formed in 2007 to review and modify as necessary the capital facilities and educational master plan completed in 2002. The Town and the School District desire to re-examine the assumptions and recommendations for grades pre-K through 8 made in the prior Master Plan and make modifications to more fully reflect 21st Century teaching and learning and to insure a fiscally responsible long range capital improvements and maintenance plan. Design Partnership of Cambridge (DPC) was retained by the SMPC in late 2007 to accomplish a comprehensive evaluation of the present pre-K through 8 system and develop an ideal educational model for the future of Swampscott's Schools. The resulting Master Plan is intended to address the educational needs of the Town for the next 20+ years.

EXECUTIVE SUMMARY

Goals and Objectives

The purpose of this Master Plan is to reassess Swampscott's Pre-Kindergarten through 8th Grade system and to determine the future grade structure, program and configuration of facilities and sites to be used long range. While this report builds upon prior Master Plan efforts, it focuses specifically on the educational planning of the elementary and middle school grades as the primary objective. High priorities during formulation of the Plan were incorporating community values and engaging the public in the decision making process were high priorities as was recognizing the financial realities of the town. The stated goals for the new Master Plan include:

- **Provide Educational Excellence**
- **Reflect Community Values**
- **Demonstrate Fiscal Responsibility**

Furthermore, the required scope of the study includes site/facility assessments of all current & former elementary schools and middle schools and the Town-owned Temple Israel property.

The Study Process

The process set out to identify all feasible options of accommodating desired educational models and programs. In order to accomplish this, it was necessary to define the primary evaluation criteria, assess the existing conditions of the current and potential facilities, gather information and insight (via town committees, departments, educators, parents and the community), involve the community in the decision making process, and ultimately make a recommendation of the most feasible plan for achieving the stated goals.

Eighteen system options were studied in total; 16 initially with 2 added later as information gathering continued and evaluation criteria were defined. The options organized into three distinct families:

- **Neighborhood Schools**
- **Grade-Level Schools**
- **Consolidated Schools**

The evaluation criteria encompassed 26 points in 4 major categories:

- **Learning Environment**
- **Community Values**
- **Future Flexibility**
- **Financial Considerations**

As evaluations continued and preferred options were recognized, the study was able to focus in greater detail, producing Educational Programs, Test Floor Plans, Site & Construction Phasing Studies and Costs (both operating and capital). The final round of study included a Traffic Assessment for options that posed significant concerns in this area.

Existing Conditions

The current Elementary Schools (Clarke, Hadley & Stanley) operate in aged facilities that have varying degrees of maintenance and repair needs. All will require significant investment over the next decade as the major systems (heating, ventilation and electrical distribution) are beyond their useful life and of an age where replacement parts are not readily available. The exterior masonry, windows/doors, roofs and drainage systems all warrant significant attention to prevent moisture infiltration and continued deterioration. The facilities do not meet current code requirements for ventilation, energy efficiency, plumbing/fire protection and barrier-free access. The learning environments at each school are further compromised by insufficient size and quantity of spaces. Teaching occurs in hallways, closets and basement areas where storage, mechanical and custodial functions were originally intended. The majority of spaces do not meet Massachusetts School Building Authority (MSBA) standards and requirements. Although limited wheelchair accessibility is provided at Clarke, none of the schools is fully ADA compliant. While Clarke and Hadley are on sites too small to support their outdoor and vehicular needs, they are compensated by having adjacent park land and dual street-side drop-offs that are assisted by school staff. However, faculty parking and parking for waiting or visiting parents relies on public streets and poses a safety problem. Stanley has a more substantial site but is hampered by a single street access/drop-off that results in off-site vehicular congestion in the surrounding neighborhood. Stanley's playfields are also a necessary part of the Recreation Department's Town-wide resources.

The current Middle School (on Forest Ave) has a mix of construction types that require some remediation. The overall site and building size is more than adequate for the 5th through 8th grades and Central Administration. Although there is plenty of room, the current building configuration does not support the middle school model of teaming. The facility is in need of repair, but not with the same sense of urgency as the elementary schools. The primary heating system is very inefficient and in varying stages of disrepair. Plumbing supply piping and equipment appear to be at the end their useful life. The electrical needs are more pressing and may require an investment earlier than other systems. An eventual renovation of this building will need to replace all mechanical/electrical/plumbing systems, fire protection, roofs, and most windows as part of a long range plan. Substantial interior re-partitioning will be required for barrier-free access and to meet program needs and state standards. The middle school facility is larger than required resulting in higher costs when viewed on a per student basis.

The facilities that are currently out of service (Machon and Greenwood) have more significant issues. The primary concern is limited size of the sites without having useable park land adjacent. Since more than four facilities for pre-K through 8th grade are not viable options financially and other sites are larger or have adjacent parks, Machon & Greenwood are not reused. Additionally, Machon shows significant water infiltration and related structural deterioration in one portion of the building. Like the current elementary schools, the major systems (heating, ventilation and electrical distribution) are beyond their useful life. The exterior masonry, windows/doors, roofs, and drainage systems all warrant significant attention to prevent moisture infiltration and continued deterioration. Neither building is ADA compliant nor do the majority of classrooms meet MSBA requirements.

The Temple site is somewhat larger than Clarke, Hadley and Machon, but like Machon is not supplemented by adjacent park land. As a result it proved best suited as an Early Childhood Center but, as such, would create an undesirable geographic consolidation with the Temple, Stanley and Forest Ave sites. The building is in reasonably good shape. Exterior doors and windows should be replaced in total. All major interior MEP/FP systems need to be replaced to serve the educational reuse. Substantial repartitioning would be required to reuse the building as a school programmatically.

Information Gathering

The process of information gathering and dissemination is central to the success of any project such as this one. DPC first reviewed the content and recommendations developed in the prior planning efforts and then conducted meetings with representatives of the educational community – the Superintendent and senior staff; system-wide curriculum directors; representatives of each enrichment subject area; special education staff; health, counseling and other support staff representatives. Meetings were then held with principals and teachers from all current schools. Views of Town officials were also solicited. DPC presented to and asked for feedback from school parent organizations (PTO's and PTA's) representing every school. This process of structured information gathering and dissemination built to a series of open public meetings which all Townspeople were urged to attend.

Options & Evaluations

The complete and detailed lists of options and evaluation criteria are included in Section 6.0 of the Master Plan. The following is a summary of three major categories that the 18 options fit within and their relative advantages and disadvantages among the 4 major evaluation criteria categories.

Neighborhood Schools are the means of breaking a large District into smaller communities with each school serving only their surrounding neighborhoods. The appeal is in having a more intimate environment among students, parents and teachers. The neighborhood model relies on the District to ensure parity of educational experience from school to school. The concept can create division in towns that cannot maintain parity or those that have distinct socio-economic differences between neighborhoods. Neighborhood Schools are usually within an easy walk or short drive to reduce traffic town-wide. In Swampscott they would contain grades K through 4, maintaining few transitions for better learning. The number and size of schools becomes problematic as more facilities result in higher operating costs and the varied sizes could create inequities.

Neighborhood Schools				
N1:	**PreK - 4	**Pre-K - 4*	K - 4*	5 - 8
	450 Stanley	260 Hadley	210 Clarke	720 MS
N2:	**PreK - 5	**Pre-K - 5*	K - 5*	6 - 8
	510 Stanley	320 Hadley	260 Clarke	550 MS + C.A.
N3:	PreK - K	1 - 4	1 - 4	5 - 8
	240 Clarke	420 Stanley	260 Hadley	720 MS
N4:	PreK - K	1 - 5	1 - 5*	6 - 8
	240 Clarke	590 Stanley	260 Hadley	550 MS + C.A.
N5:	PreK - 1	2 - 5	2 - 5	6 - 8
	400 Temple	430 Stanley	260 Hadley	550 MS + C.A.
N6:	**PreK - 4	**Pre-K - 4	5 - 8	
	600 Stanley	320 Clarke	720 MS	
N7:	**PreK - 5	**Pre-K - 5	6 - 8	
	770 Stanley	320 Clarke	550 MS + C.A.	

* Enrollment does not allow ideal 3+ classrooms per grade.

** Pre-K, special needs based, could be consolidated to one facility

Grade-Level Schools ensure parity town-wide by having each school serve entire grade levels of the town. Some Grade-Level options are geographically dispersed like the Neighborhood Schools and although they don't serve only the surrounding area, they provide identity and bring the whole community together at these select points. The drawback would be increased cross-town traffic. Grade-Level options are generally a better fit physically because the varied facility and site sizes can be assigned without creating parity problems. The educational advantages of Grade-Level Schools are in providing age specific resources and enrichment opportunities for both students and teachers. Although most Grade-Level options introduce another transition point for students, the interruption is mitigated by students moving as town-wide cohorts through their entire school experience. In Swampscott, Grade-Level Schools could help build a more cohesive and complete community.

"Grade Level" Schools:			
G1:	PreK - K	1 - 4	5 - 8
	240 Clarke	680 Stanley	720 MS
G2:	PreK - 1	2 - 4	5 - 8
	400 Temple	520 Stanley	720 MS
G3:	PreK - 1	2 - 5	6 - 8
	400 Temple	690 Stanley	550 MS + C.A.
G4:	PreK - 4	5 - 8	
	920 Stanley	720 MS	

* Enrollment does not allow ideal 3+ classrooms per grade.

** Pre-K, special needs based, could be consolidated to one facility

Consolidated Schools function similar to Grade-Level Schools, but are differentiated by longer grade-spans, usually 6 or more grades under one roof. Consolidated Schools have all the advantages of Grade-Level options but also benefit from having the same or fewer transition points and less operating costs as a result of fewer facilities and increased efficiencies. They would pose similar cross-town traffic issues. Because of the limited transitions, long grade spans and enrichment opportunities associated with Consolidated Schools, they are preferred educationally. Phasing proves to be a particular problem because funding two major projects is likely to take 10+ years; building the first would leave half the students from each grade in inferior facilities until the second project was built. The size and scale of the Consolidated School options also proves not to be a good fit given the available sites and traffic issues.

"Consolidated" Schools:			
C1:	PreK - K	1 - 8	1 - 8
	240 Clarke	700 Stanley	700 MS
C2:	PreK - 1	2 - 8	2 - 8
	400 Temple	620 Stanley	620 MS + C.A.
C3:	**PreK - 8	**Pre-K - 8	
	810 Stanley	830 MS	
C4:	PreK - 4	K - 8	
	575 Stanley	1065 MS	
C5:	PreK - 8		
	1640 MS		

* Enrollment does not allow ideal 3+ classrooms per grade.

** Pre-K, special needs based, could be consolidated to one facility

The original list of 16 options was narrowed to 5 for further study. Two options each from the Neighborhood (N1 & N6) and Grade-Level (G1 & G4) families along with one from the Consolidated (C3) family were tested in detail including programs, plans, site diagrams and phasing, each with capital + operational costs calculated.

Neighborhood Schools			
N1:	**PreK - 4 450 Stanley	**Pre-K - 4* 260 Hadley	K - 4* 210 Clarke 5 - 8 + C.A. 720 M.S.
N6:	**PreK - 4 600 Stanley	**Pre-K - 4 320 Clarke	5 - 8 + C.A. 720 M.S.

"Grade Level" Schools:		
G1:	PreK - K 240 Clarke	1 - 4 680 Stanley 5 - 8 + C.A. 720 M.S.
G4:	PreK - 4 920 Stanley	5 - 8 + C.A. 720 M.S.

"Consolidated" Schools:		
C3:	**PreK - 8 810 Stanley	**Pre-K - 8 830 M.S. C.A. Machon

* Enrollment does not allow ideal 3+ classrooms per grade.

** Pre-K, special needs based, could be consolidated to one facility

Three additional options (G2a, G2b & G5, shown in the final cost analysis below) were brought forward for further study. N1 and C3 proved to be undesirable. N1 exhibited a 20-25% premium in capital costs, higher operating costs and educational inefficiencies. Educational inequities are created in C3 as there would likely be 10+ years between construction each K-8 school.

Relative Capital Costs (not actual)

Planning Options	PHASE 1	PHASE 2	Total Capital Cost [1], [2], [3]	Reimb. @ 40% [4]	Net Capital Cost [5]
Neighborhood Schools					
N6:	PreK - 4 650 Stanley	K - 4 270 Clarke	5 - 8 + C.A. 720 M.S.		
	\$28,260,000	\$15,710,000	\$32,990,000	\$76,960,000	\$24,180,000
					\$52,780,000
"Grade Level" Schools:					
G1:	PreK - K 240 Clarke	1 - 4 680 Stanley	5 - 8 + C.A. 720 M.S.		
	\$11,860,000	\$30,680,000	\$32,990,000	\$75,530,000	\$25,148,000
					\$50,382,000
G2(A):	PreK - 1 410 Temple	2 - 4 510 Stanley	5 - 8 + C.A. 720 M.S.		
	\$17,670,000	\$25,210,000	\$32,990,000	\$75,870,000	\$22,960,000
					\$52,910,000
G2(B):	PreK - 1 410 Hadley	2 - 4 510 Stanley	5 - 8 + C.A. 720 M.S.		
	\$18,480,000	\$25,210,000	\$32,990,000	\$76,680,000	\$22,960,000
					\$53,720,000
G4:	PreK - 4 920 Stanley		5 - 8 + C.A. 720 M.S.		
	\$41,080,000		\$32,990,000	\$74,070,000	\$29,308,000
					\$44,762,000
G5:	PreK - 3 750 Stanley	Central Admin. Allowance	4 - 8 890 M.S.		
	\$34,150,000	\$800,000	\$33,470,000	\$68,420,000	\$27,048,000
					\$41,372,000

Footnotes: [1] Off-site improvements are not included.

[2] Construction cost escalation is not included.

[3] Furniture, furnishings, and educational equipment and technology are not included.

[4] Reimbursement does not cover cost of Central Administration renovation or 3rd school project, if any.

[5] Net Capital Cost does not include proceeds from the sale of existing buildings.

Relative Operating Costs (not actual) [1], [2]

					Total Annual Operating Cost		
					[3]	[4]	
Neighborhood Schools					Staff	Debt Service	Total
N6:	PreK - 4	K - 4	5 - 8 + C.A.				
	650 Stanley	270 Clarke	720 M.S.				
	91,000	50,000	165,500				
	Energy	Supplies	Repairs	Snow	Buses		
	\$919,500	\$44,000	\$91,000	\$80,000	\$40,000		
					\$9,201,900	\$4,232,000	\$14,608,400
"Grade Level" Schools:					Staff	Debt Service	Total
G1:	PreK - K	1 - 4	5 - 8 + C.A.				
	240 Clarke	680 Stanley	720 M.S.				
	38,000	99,000	165,500				
	Energy	Supplies	Repairs	Snow	Buses		
	\$907,500	\$47,000	\$96,000	\$80,000	\$40,000		
					\$9,377,900	\$4,065,000	\$14,613,400
G2(A):	PreK - 1	2 - 4	5 - 8 + C.A.				
	410 Temple	510 Stanley	720 M.S.				
	62,000	78,000	165,500				
	Energy	Supplies	Repairs	Snow	Buses		
	\$916,500	\$47,000	\$96,000	\$80,000	\$40,000		
					\$9,377,900	\$4,184,000	\$14,741,400
G2(B):	PreK - 1	2 - 4	5 - 8 + C.A.				
	410 Hadley	510 Stanley	720 M.S.				
	62,000	78,000	165,500				
	Energy	Supplies	Repairs	Snow	Buses		
	\$916,500	\$47,000	\$96,000	\$80,000	\$40,000		
					\$9,377,900	\$4,248,000	\$14,805,400
G4:	PreK - 4	5 - 8 + C.A.					
	920 Stanley	720 M.S.					
	136,000	165,500					
	Energy	Supplies	Repairs	Snow	Buses		
	\$904,500	\$51,000	\$114,000	\$60,000	\$80,000		
					\$8,888,400	\$3,545,000	\$13,642,900
G5:	PreK - 3	4 - 8 + C.A.					
	750 Stanley	890 M.S.					
	111,000	165,500					
	Energy	Supplies	Repairs	Snow	Buses		
	\$829,500	\$51,000	\$114,000	\$60,000	\$80,000		
					\$8,888,400	\$3,238,000	\$13,260,900

Footnotes:

[1] Energy-efficient heating, ventilating and air conditioning are assumed for all facilities.

[2] Cost escalation is not included.

[3] Annual Staff cost based on School Department estimate 3/18/08.

[4] Annual debt service based on 5% interest, fixed payments, and 20-year term.

Conclusions

When all the educational, community, financial and future flexibility issues are considered, the Swampscott Master Plan Committee along with the Superintendent of Schools and Design Partnership were unanimous in the selection of Grade-Level option G1 as the best option for the future of Swampscott's pre-Kindergarten through 8th grade schools.

Grade-Level options bridge neighborhoods, knitting all parts of the Town together and helping to unify the community. Although this represents a departure from the Neighborhood Schools Swampscott has long enjoyed, the condensed scale of the Town lends itself to the Grade-Level model. Additionally the small size of the current Neighborhood Schools is understood to produce some negative effects on the breadth and quality of educational opportunities, community cohesiveness and fiscal sustainability compared to the Grade-Level options. While Neighborhood Schools have many positive attributes, they generally become less effective when reduced in size below about 400 students and in number to three or less. At the same time three or more elementary schools are not financially prudent as exhibited by serious budget and program constraints the system continues to grapple with. One of the strongest features of the Grade-Level option is parity, as each and every student will move through the same grade-level facilities as they matriculate through the system.

G1 consists of a 240-student Early Childhood Center (pre-K and Kindergarten) at Clarke, with Stanley serving all 680 1st through 4th grade students and the Middle School on Forest Avenue accommodating the 720 5th through 8th graders. In this Option, the Middle School facility will

have enough space to retain Central Administration on site, although its location within the building will keep it separate and distinct from the Middle School proper. The plan, as tested, renovates Clarke's two-story area and rebuilds the existing one-story wing as a new two-story addition. Stanley was studied as both an addition/renovation and complete rebuild. It proves to be most beneficial to rebuild to expedite construction, minimize educational disruptions and create an ideal, uncompromised, efficient elementary school.

Educationally the selected Option, G1, will consolidate age appropriate resources and curricula that will benefit both students and teachers. The size and grade groupings in each school afford more enrichment opportunities as capacity justifies dedicated labs, specialty spaces and grade specific resource content. Teachers will have more teaming and planning opportunities as well.

From a facilities point of view G1 has a reasonable geographic distribution of school buildings across town and reuses the smaller and larger sites appropriately. Clarke is able to utilize its multi-level entry/access where the younger children have difficulty navigating stairs. Stanley, although doubled in size, is the largest available elementary site and can be designed to pull the increased vehicular traffic onto the site and out of the neighborhood. Split start times for the Elementary vs. Middle School are recommended and further relief can be provided with a direct connection to Forest Ave; this would be a significant factor in relieving traffic in the area. Additional bussing would also be offered as homes North-East of Bradlee Ave or West of the commuter rail line would be beyond a 2 mile drive to Clarke or Stanley respectively. Despite the bussing provisions, participation may be much less as only one third of the current requirement is utilized. DPC recommends having a detailed traffic study performed when the Stanley School project moves forward to a full-fledged MSBA feasibility study. Additional study will also be required to address the loss of one of the Stanley fields, currently in heavy use by the Town's youth programs.

Financially G1 represents the lowest capital costs of all viable options. It also includes a further consolidation of facilities from what exists today; helping to lower energy costs as well as gain some program and staffing efficiencies. Potential funding sources include state assistance, debt service, sales of surplus properties, tax revenue, and modest grants/rebates. G1 is prudent in reusing buildings where appropriate and constructing new facilities where there is the greatest need and more financial assistance can be realized. State assistance is subject to the MSBA approval/process that will measure Swampscott's need against all other towns who submit Statements of Interest (SOI) in a given year. DPC recommends that Swampscott submit a SOI before the next submission deadline of July 1st 2008.

DPC recommendations that the Town should request of potential design firms are:

- Pre-schematic pursuit of grants, most notably the MTC Study Grant
- Development of both LEED & MA CHPS rating checklists during preliminary design
- Life cycle cost analysis to be used for decision making of major systems & components
- Energy modeling to be conducted early in the design process
- Evaluations of energy usage on a per square foot and per student basis
- Pursuit of utility and other rebates
- Procurement of an independent Systems Commissioning Agent early in early phases
- Coordination with Swampscott's Renewable Energy Committee

Given Swampscott's unique condition of scale, limited revenues & increased burdens it is of paramount importance that any continued studies or projects born from this Master Plan establish goals and priorities for highly efficient, very durable, sustainable and flexible designs. Investing a little more up front will ease operating costs and more than pay-back over time.