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REPORT

FOR

LONG BEACH ISLAND CONSOLIDATED SCHOOL DISTRICT

**STUDY OF SCHOOL CONSOLIDATION
LONG BEACH ISLAND, NEW JERSEY**

LAN JOB #2.20004.02
JANUARY 21, 2011

Submitted to:

Long Beach Island Consolidated
School District
200 Barnegat Avenue
Surf City, NJ 08008

Attention: Dr. Joseph M. Cappello
Interim Business Administrator

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1.0 INTRODUCTION

The Long Beach Island Consolidated School District serves the needs of the citizens of Long Beach Island including the communities of Barnegat Light Borough, Long Beach Township, Harvey Cedars Borough, Surf City Borough, and Ship Bottom Borough. The remaining community of Beach Haven at the south end of the island currently has its own school.

The Long Beach Island Consolidated Schools serve children from the age of pre-school through sixth grade after which the students attend Southern Regional High School in Manahawkin.

The District consists of two (2) schools: Long Beach Island School serving Pre-Kindergarten students and fourth through sixth grade and Ethel A. Jacobsen School serving Kindergarten through Third Grade. The Jacobsen School also houses the Board of Education offices.

Because of a trend of declining enrollment over the past five (5) years, LAN Associates, Engineering, Planning, Architecture, Surveying, Inc. (LAN) was retained to study the possibility of combining the two (2) schools into a single facility to achieve greater efficiencies in operations and to provide a better educational facility.

2.0 EXECUTIVE SUMMARY

After reviewing the physical condition of each building, the use of each space and enrollment projections, we have concluded that it is feasible to combine the two (2) schools on to a single site. Cohort Survival Projections (based on existing populations and the live birth rates of the communities attending the schools), project that enrollments for the next five (5) years will not exceed the present enrollment. A single combined school would have to provide two (2) classrooms per grade level plus the needed support spaces including a gymnasium, cafeteria, music room, art room, science room, library, stage, and additional specialized spaces for speech, language, small group instruction, basic skills improvement, and similar programs. New construction to provide for all of these spaces would be required at either site.

We have also concluded that while there are pros and cons to providing a combined school at either site, the Ethel A. Jacobsen Elementary School site, which contains larger acreage and is of newer construction, should receive primary consideration for expansion. However, we have also presented a scheme for consolidating both schools at the Long Beach Island School site.

We have not studied the staffing needs or possible savings resulting from consolidating staff. We have also preliminarily reviewed the possibility of combining the Beach Haven School students into the Long Beach Island Consolidated School District and found that an expanded single site building could accommodate the present Beach Haven School population. However, we did not study the enrollment projections or historic trends occurring in Beach Haven. This would require additional study should consolidation with Beach Haven be pursued.

Based on a preliminary concept plan, a 21,750 sf addition and renovation costing approximately \$9.4 million would be required at the Ethel A. Jacobsen School to provide sufficient space and facilities to consolidate the buildings. We have also prepared a preliminary concept plan for the Long Beach Island School, projecting a need for a 7,800 sf addition and renovation at a cost of \$4.2 million.

Finally, we retained the services of Appraisal Capital Services, LLC to perform appraisals of each property should they be sold. They concluded that the possible gain from the sale of the Ethel A. Jacobsen School site is \$5,900,000. However, there are deed restrictions on the land which may negate this value. A vacant separate lot adjacent to the school was appraised at \$2,860,000.

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The projected sales price of the Long Beach Island School was estimated at \$8,700,000 with no apparent restrictions on use of the proceeds.

Simplified Summary:

Single Expanded School at:	Additions & Renovations Cost	Max. Potential Gain from Sale of Excess Property	Net Cost
LBI School	\$4.2 million	\$2.86 million	\$1.34 million
Ethel Jacobsen School	\$9.4 million	\$8.70 million	\$.70 million

Not Studied:

1. Staff reduction savings.
2. Transportation costs.
3. Possible state aide toward construction costs.
4. Return of property to tax rolls.

3.0 SPACE USE ANALYSIS

3.1 Ethel A. Jacobsen School:

The Ethel A. Jacobsen School, 200 Barnegat Avenue, Surf City, NJ is a 33,135 sf elementary school situated on a 2.5253 acre site contiguous to a "paper street" (South 3rd Street) across from which is a second lot containing an additional 2.5253 acres. Ethel A. Jacobsen School is utilized for kindergarten through grade three and provides two (2) well equipped kindergarten rooms plus an additional twelve (12) classroom size spaces. Because there are only five (5) grade sections at the present time, many of these classroom spaces are used for programs that could be housed in alternate smaller locations including the following:

1. Resource room
2. ESL/work language room
3. Art room
4. ATP/speech/OT room
5. ILA/BSI room
6. Music room

Ideally, the music room and art room should be contained in spaces custom designed to best benefit those uses. For instance, the music room would benefit from additional sound proofing, improved acoustics, and closer proximity to the stage area. The art room would benefit from north light, plumbing, and storage facilities to aid in art instruction. However, the existing layouts are adequate and serve the building well.

Because of the surplus of space the building is also able to accommodate the Board of Education offices which have minimal space demands.

There are certain deficiencies in the existing space including general lack of compliance with the present day barrier free standings including multiple barrier free entrances to the building (there is only one), widened doorways to all of the classrooms, improved toilet facilities, and similar improvements. Another space limitation is a relatively small sized gymnasium with insufficient ceiling height to meet the present state mandated ceiling height requirement. This room also serves for lunch and auditorium purposes which is satisfactory for the current population, but would be too small for expanded use. One other possible limitation of the building is its dependence on all electric heating system although based on a utility study the costs of utilities for the Jacobsen School is comparable to the cost of utilities at the Long Beach Island School.

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An inspection was made of the building and the results of that inspection can be found in Appendix C. The inspection revealed that the building is of newer construction than the Long Beach Island School generally in good condition. Some of the larger deficiencies requiring correction or monitoring including some horizontal cracking occurring in the walls due to settlement, possible upgrade of the fire detection system, possible upgrade of the electrical service equipment and distribution including consideration of installing a gas fired heating system, improvements to rusting window lintels, and barrier free improvements including signage, widening of doors, improving door hardware, adding additional barrier free entries, and providing barrier free toilet in the nurses office and for faculty. Additional energy improvements in addition to consideration of a gas fired heating system include upgrading the older lighting throughout the building and adding occupancy sensors to limit the time the lights are on. Some site work concerns include settling of concrete sidewalks of a minor nature, ponded water in the rear parking area, and improving the site lighting. Classrooms would benefit from additional electrical receptacles.

We also note that there is only a single set of public toilets available for the students consisting of only four (4) water closets for the girl's and three (3) water closets and three (3) urinals for the boy's. Approximately half of the classrooms have self-contained toilets which alleviates the concern however the size of the rooms is not up to barrier free standards and were not considered in our toilet count.

The school has an excellent media center, and is of a relatively compact and efficient design.

3.2 Long Beach Island School:

The Long Beach Island School is larger than the Jacobsen School having been added onto twice in the past. It contains 48,165 square feet and is situated on a 3.96 acre site, which also contains a bus garage. This school houses pre-kindergarten plus grades four through six. This school has thirteen (13) classroom sized rooms plus dedicated rooms for science, technology (computer) lab, art room, and a music room. It also has several additional small group instruction rooms and a good sized media center with large computer lab. The biggest asset is a large size gymnasium more suitable for older children although this gymnasium also does not have sufficient ceiling height to meet the present school codes for 22' clear height in gymnasiums. This school like the Jacobsen School also has a full kitchen. The Long Beach Island School also has an additional office area used for the child study team including a reception area, work space, four (4) private offices and storage rooms. The nurse's office is adequate, but would require a barrier free toilet facility. This building has multiple barrier free entries and is somewhat in better compliance for barrier free access although would still need upgrades to some door widths and circulation paths. The Long Beach Island School has two (2) sets of toilet rooms providing a more satisfactory fixture count.

The original building is older than the Jacobsen School.

Because of the low enrollment, some of the standard classrooms are used for special programs including the following:

1. World language
2. Speech/OT

Two (2) classrooms are used for the pre-k program. These rooms appear to have originally been intended as kindergarten rooms. They do have a direct entrance from the front drop-off which is a desirable feature.

Also present at the Long Beach Island School site is a bus garage located remotely from the school building. The building was not inspected, but is in poor condition and is not heavily used by the School District.

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4.0 **BUILDING AND BUILDING SYSTEMS CONDITIONS**

4.1 Roofs:

The roof at the Ethel A. Jacobsen School is in serviceable condition, but is suffering from wind scour. It is a spray polyurethane type roofing system and wind erosion is occurring at many of the corners which are subjected to excessive wind forces and damage. In general, the roof is serviceable.

At the Long Beach Island School the roof consists primarily of pitched shingle type roofs in good condition as well as some standing seam metal roof especially over the gymnasium. The gymnasium roof does make a noticeable noise inside during expansion and contraction when the sun strikes it. Some roof leaks were noted in the low slope roof section over the media center wing which will require some repairs and maintenance.

4.2 Exteriors:

The exteriors of both of the buildings are in serviceable condition. Both buildings do suffer from corrosion of steel window and door lintels. Both buildings will require scraping, priming, and painting of the lintels and replacement of the lintels in some deteriorated locations. This deterioration is probably accelerated from possible salt air exposure. We would recommend replacement with heavy galvanized lintels in the future. There is some horizontal cracking occurring in both buildings of a limited nature. The Long Beach Island School is pile supported and does have some differential settlement. The Ethel A. Jacobsen School is conventionally supported on spread footings or mat foundations and there are noticeable horizontal cracking in some of the inner partition walls which should be maintained.

4.3 Toilet Facilities:

Both schools have individual toilet rooms in some of the classrooms which are of an extremely small size and would not meet current barrier free access regulations, but are still useable. Additional toilets could be installed at Ethel A. Jacobsen School since there is only one (1) common toilet room present. A second toilet room was added at the Long Beach Island School near the gymnasium lobby which is satisfactory.

4.4 HVAC Systems and Energy Consumption:

The Long Beach Island School, being the older building has an aging heating and ventilating system consisting of steam boilers and pipe distribution through the crawlspace. LAN prepared a separate analysis of this system. An excerpt of the recommendations and potential cost for improving that system can be found in Appendix H. It is seen that \$477,000 should be allowed for upgrading this system.

An all electric heating system is installed at the Ethel A. Jacobsen School. Because of the inherent high cost of all electric systems, we prepared a short audit of utility use for each school to determine the differences. A summary of our findings can be found in Appendix B. The energy use per square foot of space is about 33% higher at the Ethel A. Jacobsen School. Should an addition be placed at the Ethel A. Jacobsen School, it would be an excellent time to upgrade part or all of the existing HVAC systems by converting from electric to gas fired systems. The building currently has gas fired domestic hot water, the gas line being in the building for a previous incinerator that was removed. Therefore, we did not find any particular reason to favor one site over the other based on energy consumption because our cost estimates include HVAC upgrades at both buildings to mitigate the inefficiencies.

4.5 Site Features:

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The Ethel A. Jacobsen School is situated on a larger site of relatively square geometry containing approximately 5 acres plus a "paper street" known as South 3rd Street. If the paper street is included, the size of the site totals 5.8 acres. The center line of South 3rd Street is the boundary of the Borough of Surf City to the north and the Borough of Ship Bottom to the south. Adjacent to the south of this site is an existing city park and another "paper street" (West 4th Street) which visually further expands the space available.

The Long Beach Island School has a linear site configuration containing approximately 3.96 acres. This limits the possibilities for expanding the school into two (2) directions only, both of which would encroach on existing playgrounds.

The Ethel A. Jacobsen School site currently has 36 parking spaces available plus a drop-off zone with parking for five (5) vans. The Long Beach Island School site has 34 parking spaces available and also has a drop-off zone. Both sites have vehicular drop-off areas with street frontage available on at least two (2) sides. The Long Beach Island School site is fully owned by the Long Beach Island Consolidated School District based on the appraisers report. It could be sold without restriction. Conversely, the Ethel A. Jacobsen School site still has a paper street down the center of it over which is the present school parking. Additionally, the lot the building is built on must revert back to the municipal government should the site not continue to be used as a school at a pre-set price. This limits the resale potential of the Ethel A. Jacobsen School site.

The athletic fields at both sites were not studied. The Long Beach Island School has a fenced in play area and basketball area at the front side of the building and a softball field in the rear yard in marginal condition. The Ethel A. Jacobsen School has paved play areas immediately adjacent to the building as well as grass areas and the larger municipal field to the south. Both schools have young children play areas with slides, swings, and safety surfacing.

4.6 Flood Elevations:

Both sites are located in areas with defined flood elevations. The Ethel A. Jacobsen School has a finished floor elevation of 8.25' and is in Flood Zone AE with a flood elevation of 7.0'. The Long Beach Island School has a finished floor elevation of 9.0' and a flood elevation of 7.0', but one block south at the bay the flood elevation increases to 8.0'. Should the Long Beach Island School encounter severe flooding, the boiler room is constructed in a pit several feet lower than the flood elevation. This means that the boiler equipment and the main electrical distribution service for the entire building would quickly become inundated and is actually located in the lowest part of the building. The schools should serve a secondary role as emergency evacuation shelters during severe storms and hurricanes. Any new construction should be ramped up to a slightly higher elevation to provide additional flood protection for the construction. Any reconfiguration of the buildings should also include an efficient evacuation shelter encompassing community space, access to toilets, food service, and the ability to lock down the remaining parts of the building.

4.7 Remaining Life:

Both buildings have additional remaining life based on proper maintenance, repairs and upkeep. It should be noted that the Long Beach Island School is the older building and does have some areas of additional deterioration not noted in the Ethel A. Jacobsen School such as more severely deteriorated lintels, some undermining around the building, some deterioration of the piles and repairs made in the past, and generally older construction. The building also has a wood framed roof system whereas the Ethel A. Jacobsen School has a metal frame non-combustible type building system. Both buildings are ranch style and do not need stairs and elevators. Additionally, two (2) additions at the Long Beach Island School are newer and in good condition.

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5.0 ENROLLMENT PROJECTIONS

LAN performed a calculation of probable future enrollments based on the standard Cohort Survival Method. The Cohort Survival Method is approved by the New Jersey Department of Education (NJDOE) and the format and formulas used are based on NJDOE standards. The major limitation of the Cohort Survival projection method is that it uses past trends to predict the future. This means that during times of increasing enrollment it tends to predict that enrollment will continue to increase and during times of decreasing enrollment it tends to predict that enrollment will continue to decrease. One factor mitigating this bias is the introduction of actual birth data from the municipalities that contributes students to the district. We obtained the birth data from state records and by utilizing the past birth rates five (5) years earlier prior to kindergarten, the tables predict probable future enrollments. However, the birth rates for the coming years obviously must be estimated since they are not yet known. We produced two (2) projections; one (1) based on the most recent birth certificates and one (1) based on the high average birth rate over the past six (6) years.

The Cohort Survival worksheets can be found in Appendix A. Also in Appendix A is a chart of the municipal births.

The chart of municipal births shows historic birth rates from the contributing communities in the range of 38 through 55 from the years 1998 through 2003. The birth rate dropped in the year 2004 to 35 and in 2005 to 29.

Because the birth rates are only available through the year 2005, we utilized two projections; one based on the low rate of 29 births per year and one based on a high rate of 40 births per year. The lower birth rates resulted in declining student enrollment. The higher birth rate resulted in student enrollment approximately three (3) students higher than the current enrollment and remaining stable for the next two (2) years and then a slight increase in the fourth and fifth year, but not exceeding the 2005 – 2009 levels.

Utilizing the enrollment projections in Appendix A, we compiled the following chart which we will call the “Highest Projection”. This looks at the number of classrooms needed to house the population. We used a cutoff of 24 students per class. This means that as long as the projected enrollments do not exceed 48 students per grade level a combined school based on two (2) classrooms per grade level will handle all of the various future projections comfortably. In fact, all of the projections were well under 48 students per class, except for Kindergarten. The space allocation for kindergarten was based on eighteen (18) students per class.

We then added the 2005 - 2006 Beach Haven enrollment to the projections to determine if the Beach Haven students could also be accommodated in a single expanded school with only two (2) sections per grade level. We found that a single school would accommodate the increased enrollment from Beach Haven although class sizes are 43 - 45 students in some grades. This is still satisfactory, but would require further study of the Beach Haven demographics and enrollment projections.

It is also important to note that the kindergarten class projections revealed the need for two (2) kindergarten classes without Beach Haven, and three (3) if Beach Haven is included. The configuration of half day versus full day class and the acceptable number of students per class should be given further consideration. Half day kindergarten would require less space.

Highest Projection:

2010-2011	Grade Level								
	K	1	2	3	4	5	6	PSD	PK
LBI Consolidated School District Population (Students)	36	33	35	33	32	30	31	8	29
Classes Needed Per Grade Level (Classrooms)	2*	2	2	2	2	2	2	1	2

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Beach Haven School District Population (Students)	12	10	6	10	9	10	14	----	1
Total Population if Combined (Students)	48	43	41	43	41	40	45	8	30
Classrooms Needed if Combined (Classrooms)	3*	2	2	2	2	2	2	1	2

* Kindergarten Class = 18 students per section

Theoretical capacity based on 24 students/class with two (2) classrooms per grade level and 15 students per K or Pre-K (1/2 day).

$$48 \times 6 = 288 + 90 = 378$$

$$378 \times .8 \text{ utilization factor} = 302 \text{ students}$$

The theoretical capacity of 24 students per class is not readily achievable based on normal variation and class sizes. A standard utilization factor of 80% was added above to determine that even with normal variation of class size the current population projections are accommodated in a consolidated single school building. The pre-school disability, pre-kindergarten and kindergarten program configurations (half day versus full day sessions) should be discussed to assure that additional learning space is not needed to accommodate full day programs in the future. Several additional classrooms should also be planned as "swing space" should an occasional spike of over 48 students per grade occur.

6.0 SINGLE SCHOOL SITE OPTIONS

Based on the findings above, we developed schematic floor plans for each school to provide roughly comparable facilities at each site. Schematic floor plans can be found in Appendix G.

At the Long Beach Island School, we are proposing a relatively small addition housing only classroom space. Because of the linear nature of the site and close proximity of West 19th Street and West 20th Street, we situated the addition on the west end of the building which will encroach into the children's play area and left field of the softball field, meaning the field would have to be downsized or reconfigured. The site is limited and it is difficult to achieve good circulation, but we looped the corridor system from the media center addition to the front wing. This technically violates the needed dimension in the courtyard near one of the existing classrooms. Ways to eliminate this difficulty would include possible remodeling of the media center to incorporate a connecting corridor through the media center or not connecting the new addition to the media center wing at all. The fact that the Long Beach Island School is a bigger building, it limits the size of the needed addition to a relatively simple one-story wing. This layout relies on the multi-purpose room and gymnasium continuing to serve double duty for both physical education and for the lunch program. This arrangement will be tight around the mid-day period because of the increased number of students needing the gymnasium starting to crowd the scheduling around lunch time. However, the expanded plan does provide for two (2) sections of each grade level as well as pre-kindergarten and kindergarten and dedicated music room, art room, science room, basic skills improvement space, child study team space, and spaces for language and speech. The proposed addition based on schematic design only is approximately 7,800 sf. We estimate that the following budgetary cost would be necessary to achieve this plan:

LONG BEACH ISLAND SCHOOL:

#	Description	S.F.	Unit Price (\$/SF)	Total (\$)
1	Classrooms	6300	270	1,701,000
2	Corridors	1500	240	360,000
	Sub-Total	7,800	264.23 (ave.)	2,061,000
	Upgrades & Renovations to Existing Building (Allow)			1,000,000
	Sub-Total			3,061,000

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	Contingency (20%)			612,200
		Sub-Total		3,673,200
	Soft Costs (Bonding, Legal, Design, CM) 15%			550,980
		Total		4,224,180
			Say	4.2 Million

At the Ethel A. Jacobsen School, a larger addition is needed because the existing school is smaller. A larger addition is shown showing an efficient courtyard loop system which will not add excessive travel distance to the building and is quite functional. The building is zoned with younger children generally separated from the older children. Because the existing gymnasium is quite small, this scheme includes a new gymnasium correctly oriented toward the outdoor athletic fields. The new gymnasium can also be integrated with a new lobby with separate public toilets which could be setup to function as a community evacuation center. It can also be locked off from the rest of the building for after hours use for community recreation. The existing gymnasium would remain for the lunch program, the stage and auditorium, and can also be used by the lower students for physical recreation. The final plan includes dedicated spaces for the library, music, science, language, resource, and other programs. This scheme however is considerably larger at approximately 21,750 sf. A budgetary cost estimate is as follows:

ETHEL A. JACOBSEN SCHOOL

#	Description	S.F.	Unit Price (\$/SF)	Total (\$)
1	Classrooms	10,300	270	2,781,000
2	Corridors	3,600	240	864,000
3	Offices	1,200	280	336,000
4	Toilets	750	400	300,000
5	Gymnasium	5,900	300	1,770,000
		Sub-Total		6,051,000
	Upgrades & Renovations to Existing Building (Allow)			750,000
		Sub-Total		6,801,000
	Contingency (20%)			1,360,200
		Sub-Total		8,161,200
	Soft Costs (Bonding, Legal, Design, CM) 15%			1,224,180
		Total		9,385,380
			Say	9.4 Million

7.0 RECOMMENDATIONS

Based on the above study, we have concluded that the recent declining enrollment has reached a point where consolidation of the District into a single school building is worth pursuing. We have evaluated only the space needs and physical conditions of the buildings and have concluded that consolidation will require new construction at either building selected.

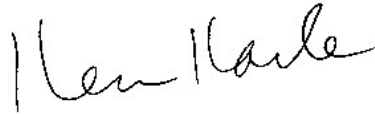
Should the Ethel A. Jacobsen School site be selected, a larger addition will be needed, but the resultant facility will be on a larger site, centrally located with good access. Our estimate includes additional improvements to be made to the mechanical systems to further aid in reducing the future operating costs.

Should the Long Beach Island School site be selected, a smaller addition is needed, and a building with sufficient educational space could be achieved. The limitations, however, are the linear configuration of the site and the smaller site size which will provide less outdoor recreation space that cannot be increased in the future.

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An overriding factor which must be given careful consideration is that the Long Beach Island School site appears to be more marketable in as much as the Long Beach Island Consolidated School District owns the site without contingencies or deed restrictions. The Ethel A. Jacobsen School site appears to have deed restrictions that would possibly result in limited proceeds from sale of the site (although part of the site is technically a vacant lot which could be sold.)

The District must also carefully consider reduced staffing needs and additional operating savings in utility costs if the two (2) schools are combined in to one.



Kenneth H. Karle, AIA, PE, PP, LEED AP
President

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