

9 Facilities Construction

The Brevard County School District has developed a facilities construction process that has produced quality results at minimal costs. The district utilizes a variety of construction management models that has made maximum use of construction managers and minimized in-house staff requirements. While costs have been kept low, the amount and quality of construction activity has remained at a high level.

Conclusion

Exhibit 9-1 provides MGT's conclusions in the nine facilities construction areas of:

- long-range facilities planning;
- facility needs, costs, and financing methods;
- selecting and acquiring school sites;
- identifying site and facility needs;
- identifying alternatives to new construction;
- facility planning and construction;
- developing educational specifications;
- architectural planning and financial management practices; and
- evaluating new facilities.

Exhibit 9-1

MGT Came to Several Positive Conclusions Regarding the District’s Facilities Construction

Facilities Construction Area	MGT’s Conclusions
Long-Range Facilities Planning	<p>The district has established authority and assigned responsibilities for educational facilities planning. (page 9-9)</p> <p>The district has allocated adequate resources to develop and implement a realistic long-range master plan for educational facilities. (page 9-11)</p> <p>The district has not established a standing committee that includes a broad base of school district and community stakeholders. (page 9-16)</p> <p>The district has assigned one person with the authority to keep facilities construction projects within budget. (page 9-19)</p> <p>The district has not assigned budget oversight of each project or group of projects to a single project manager. (page 9-19)</p>
Facility Needs, Costs, and Financing Methods	<p>The district uses a capital planning budget based on comprehensive data collected in early stages of the master plan. (page 9-21)</p> <p>In developing the capital planning budget, the district has considered innovative methods for funding and financing construction projects. (page 9-23)</p> <p>The capital planning budget accurately lists facility needs, costs, and recommended financing for each year of a five-year period. (page 9-24)</p>
Selection and Acquisition of School Sites	<p>Broadly representative site selection committees have been utilized in advance of expected need. (page 9-26)</p> <p>The district has developed school site selection criteria to ensure that schools are located to serve the proposed attendance area economically, with maximum convenience and safety. (page 9-28)</p> <p>The board considers the most economical and practical locations for current and anticipated needs, including such factors as need to exercise eminent domain, obstacles to development, and consideration of agreements with adjoining counties. (page 9-29)</p> <p>The district has a system to assess sites to ensure prices paid reflect fair market value. (page 9-30)</p> <p>For each project or group of projects, the architect and district facilities planner develops a plan to serve as a decision-making tool for future facilities needs. (page 9-31)</p>
Site and Facility Needs Identified	<p>The district identifies facilities needs based on thorough demographic study. (page 9-31)</p>
Existing Facilities-- Alternatives to New Construction	<p>The district uses the official Florida Inventory of School Houses (FISH) inventory to analyze student capacity and classroom utilization. (page 9-33)</p> <p>The district completes an annual school status report. (page 9-34)</p> <p>The district has considered alternatives to new construction such as year-round education, extended-day schools, changes in grade-level configuration, changes in attendance boundaries, and use of relocateable facilities (portables) to help smooth out the impact in peaks and valleys in future student enrollment but could improve in this area. (page 9-35)</p>

Exhibit 9-1 (Continued)

MGT Came to Several Positive Conclusions Regarding the District’s Facilities Construction

Facilities Construction Area	MGT’s Conclusions
Facility Planning and Construction	<p>The district uses an architect selection committee to screen applicants and identify and evaluate finalists. (page 9-39)</p> <p>The district involves architects in all key phases of the planning process. (page 9-41)</p> <p>The architect selection committee does not review and evaluate the architects’ performance at the completion of projects and refer findings to the board. (page 9-42)</p>
Educational Specifications Developed	<p>The district develops a general project description that includes a brief statement as to why each facility is being built, where it will be located, the population of students it is intended to serve, its estimated cost, the method of financing, the estimated time schedule for planning and construction, and the estimated date of opening. (page 9-43)</p> <p>The district does not develop educational specifications before the architect begins to design a facility. (page 9-45)</p> <p>The specifications include an educational program component relating the curriculum, instructional methods, staffing, and support services and also include a statement of the school’s philosophy and program objectives. (page 9-47)</p> <p>The specifications include a description of activity areas that describe the type, number, size, function, special characteristics, and spatial relationships of instructional areas, administrative areas, and services areas in sufficient detail that the architect will not have to guess at what will occur in each of these areas. (page 9-48)</p> <p>The district communicates general building considerations, including features of the facility and the school campus in general, to the architect. (page 9-50)</p> <p>The district does not use the educational specifications as criteria for evaluating the architect’s final product. (page 9-51)</p> <p>The school board-approved program requirements are communicated to the architect before final working drawings are initiated. (page 9-52)</p> <p>The board minimizes changes to facilities plans after final working drawings are initiated in order to minimize project costs. (page 9-53)</p>

Exhibit 9-1 (Continued)

MGT Came to Several Positive Conclusions Regarding the District's Facilities Construction

Facilities Construction Area	MGT's Conclusions
Architectural Planning and Financial Management Practices	<p>The board has determined whether each new facility will be constructed using the traditional system of public works or by using some innovative system such as design-build or a construction manager. (page 9-53)</p> <p>The architect prepares the building specifications document. (page 9-58)</p> <p>The architect coordinates plans, specifications, and questions concerning the project. (page 9-58)</p> <p>After bids are opened and tabulated, they are submitted to the board for awarding the contract. Legal counsel makes certain that bid and contract documents are properly prepared and that the award is properly authorized. (page 9-58)</p> <p>The district has required the contractor to submit a signed owner-contractor agreement, workers' compensation insurance certificates, payment bond, performance bond, and guarantee of completion within the time required. (page 9-59)</p> <p>The architect recommends payment based on the percentage of work completed. A percentage of the contract is withheld pending completion of the project. (page 9-60)</p> <p>The district requires continuous inspection of all school construction projects. (page 9-60)</p> <p>Buildings are not occupied prior to the notice of completion. (page 9-60)</p>
Evaluating New Facilities	<p>The district has conducted a comprehensive orientation to the new facility prior to its use so that users better understand the building design and function. (page 9-61)</p> <p>The district does not conduct comprehensive building evaluations at the end of the first year of operation and periodically during the next three to five-years to collect information about building operation and performance. (page 9-61)</p> <p>The district does not analyze building evaluations to determine whether facilities are fully used, operating costs are minimized, and changes in the district's construction planning process are needed. (page 9-62)</p> <p>The district analyzes maintenance and operations costs to identify improvements to the district's construction planning process. (page 9-64)</p>

Source: MGT.

Fiscal Impact of Recommendations

As Exhibit 9-2 shows:

- The addition of a Facilities Planning Specialist will cost approximately \$250,000 in salary and benefits over the next five years.
- The cost of a facilities utilization analysis will be approximately \$175,000.
- The savings through the use of construction alternatives could total \$1,500,532 each year.

Exhibit 9-2

Implementing the Recommendations for Facilities Construction Should Enable the District to Save \$5,575,000 During the Next Five Years

Recommendation	Fiscal Impact
• Add a facilities planning specialist	• This position will cost approximately \$50,000 per year for a five-year estimate of \$250,000.
• Complete a facilities utilization analysis	• This will incur a one-time cost of approximately \$175,000,
• Implement construction alternatives	• Cost savings of approximately \$1,500,000 each year, beginning in 2001-02

Source: MGT.

Background

The mission of the typical construction department is to provide new and modernized facilities that meet the needs of the students at the lowest possible cost. The specific goals of a construction department may include:

- to establish a policy and a framework for long-range facilities planning;
- to provide valid enrollment projections on which to base estimates of future needs for sites and facilities;
- to select and acquire proper school sites and to time their acquisition to precede actual need while trying to avoid wasting space;
- to determine the student capacity and educational adequacy of existing facilities and to evaluate alternatives to new construction;
- to develop educational specifications that describe the educational program and from which the architect can design a functional facility that matches the needs of the curriculum with the potential to enhance and reinforce the education the district desires for its students;
- to secure architectural services to assist in planning and constructing facilities;
- to develop a capital planning budget that balances facility needs, expenditures necessary to meet those needs, and how expenditures will be financed;

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- to translate satisfactorily the approved architectural plans into a quality school building and to do so within the budget and time scheduled; and
- to establish and carry out an orientation program so that users of the facility can better understand the design rationale and become familiar with the way the building is supposed to work.

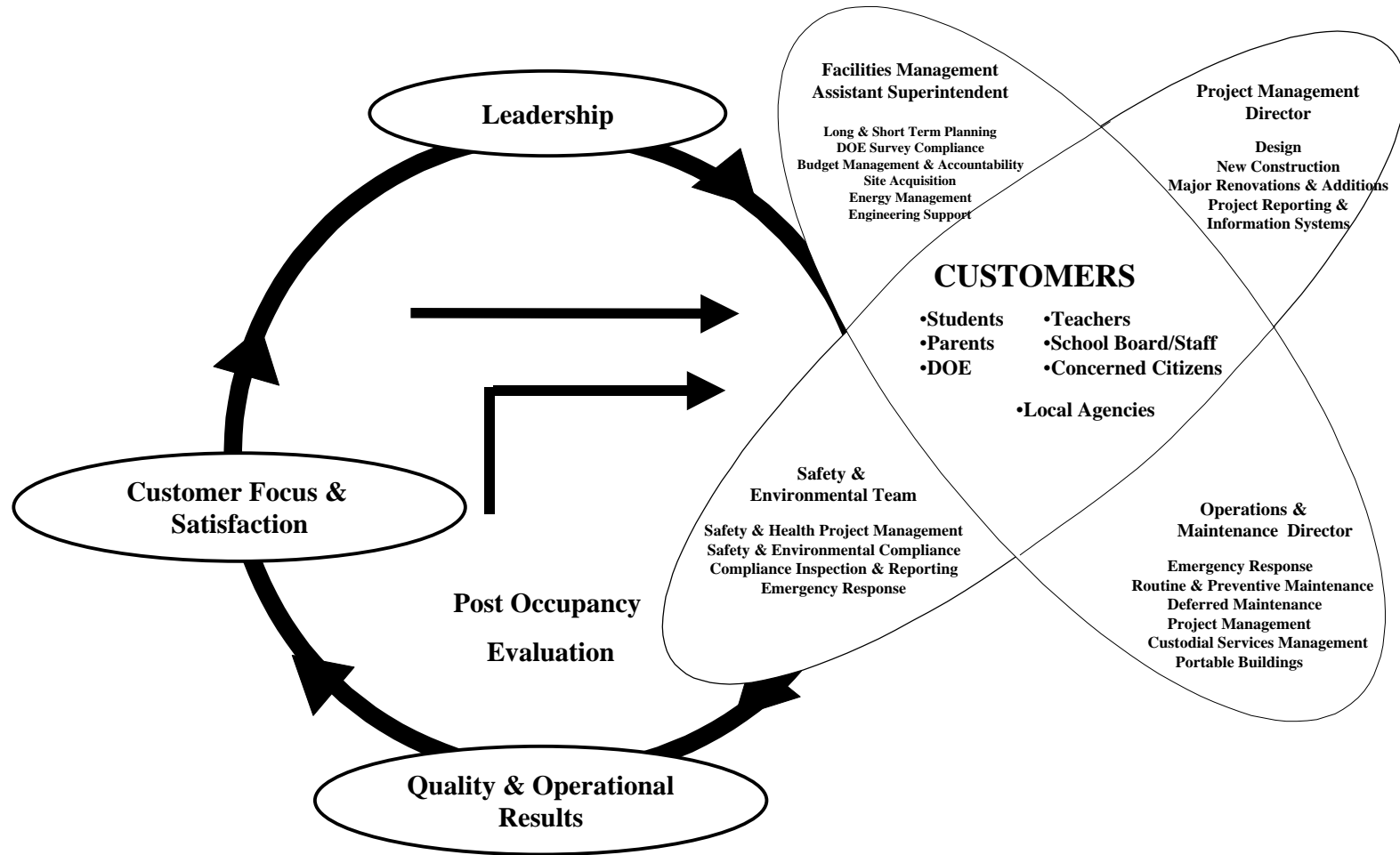
The Facilities Department in Brevard County School District does not have an officially adopted mission statement. Facilities construction in Brevard County has recently been through a period of rapid change. The organizational chart that provides the framework for the facilities planning and construction process has been revised during the past year and the processes utilized have been thoroughly reviewed and revised to emphasize the use of a construction management at risk process rather than the traditional design – bid – build approach. The changes in the organizational structure have resulted in a substantial reduction in the size of the department with, in fact, the elimination of the facilities planning department. The remaining staff has assumed a number of roles that were previously housed in that department.

Notwithstanding the reduction in staff, the district has continued to aggressively conduct facility improvement projects having (since 1996) completed four new elementary schools, one new middle school, and one new high school. There is also over \$80,000,000 of projects currently in process, including numerous renovations, additions, and re-roofing projects. In each of these construction activities, the costs have been significantly below state and national averages.

The organizational structure of the district's facilities department is provided in Exhibit 9-3.

Exhibit 9-3

Organizational Structure of the Facilities Department



Source: Brevard County School District.

The *Strategic Plan* of the Brevard County School District provides for specific priorities and objectives in each area of operations. Although the plan falls short of being truly strategic,¹ it does include several objectives related to facilities. These are:

- *Qualify for three (3) school infrastructure thrift (SIT) program awards for schools that will be completed/occupies in FY 99-99.*
- *Plan and implement a districtwide deferred maintenance program.*
- *Implement Phase II of the performance contracting initiative.*
- *Eliminate at least 50 percent of the leased portable classroom inventory.*
- *Complete a new five-year capital improvement plan, update the 1994 educational plant survey and create a new five-year work plan for board/state review/approval.*
- *Create a districtwide plan for the reduction of custodial services costs by at least \$1 million per year, while maintaining/improving the level of present services.*
- *Modify existing custodial standards and “Clean Campus” inspection procedures to reflect a higher level of cleaning services for restroom and food services areas.*
- *Develop for board approval a furnishing & equipment provision guideline for new and existing schools to establish equity among schools.*
- *Develop for publication a calendar of HVAC projects.*
- *Dispose of districtwide surplus real property in order to enhance facility improvement budgets.*
- *Conduct a boundary study for a new elementary school to be opened in August 1999 in the Viera East area.*
- *Identify a site and conduct a boundary study for a new elementary school in the Palm Bay area.*
- *Develop a plan to place all sixth grade students into elementary schools for August 1999-2000.*
- *Develop a plan placing 9th grade students into Melbourne, Eau Gallie, Merritt Island, and Satellite High Schools beginning August 1999.*
- *Develop a long-range plan relative to athletic facilities and gender equity.*
- *Improve the applied technology facilities by upgrading/renovating and equipping two traditional industrial arts labs to modern technology education labs. Plan and implement the renovation of family and consumer sciences in 26 secondary schools.*

¹ As noted in Chapter 3.0 of this report (page 3-26), the plan fails to be truly strategic because:

- it does not define the district’s relationship to its environment;
- it does not consider the whole district as the unit of analysis;
- it does not specifically address the question, “How do we get there?”;
- it does not include long-term goals that provide vision and direction for the district’s effort;
- it does not link State Education Goals to district education goals; and
- it does not link the listed objectives to student performance goals.

Throughout the conduct of this review, it was evident that the Brevard County School District has made significant improvements over the past five years with their construction processes. Exhibit 9-4 outlines these accomplishments.

Exhibit 9-4

The District Has Had a Number of Notable Accomplishments in Construction in the Past Five Years

- Construction projects have been consistently below average costs both in terms of cost per square foot and cost per student station.
 - Change orders have been kept low or eliminated due to the construction delivery process.
 - The district has thoroughly reviewed the advantages and disadvantages of different types of construction processes and has moved toward a construction management at risk process. It has utilized this not only for the construction of new facilities but has also combined numerous smaller projects in order to enjoy the advantages of construction management for smaller projects as well.
 - The district has received state rebates – School Infrastructure Thrift (SIT) awards² -- for their ability to provide facilities at a low cost.
 - The district has effectively utilized prototypical plans for new facilities.
 - The district has given appropriate attention to projects that will reduce long term maintenance costs.
 - The district has developed a partnership with Florida Power and Light that has resulted in over \$600,000 in rebates for energy efficient construction during the past two years.
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Source: Brevard County School District.

Are the Best Practices for Long-Range Facilities Planning Being Observed?

Goal: The district has a framework for long-range facilities planning to meet the needs of the district in a cost-efficient manner.

1 The district has established authority and assigned responsibilities for educational facilities planning.

The Brevard County School District has developed written procedures for educational facilities planning. They reflect the latest reorganization of the facilities division and they are regularly reviewed and updated.

² School Infrastructure Thrift (SIT) awards are a part of the state SMART (Soundly Made Accountable Reasonable Thrifty) Schools Program. The SIT award program compares a district's costs with the expected cost per student station as defined by the department of education. When a district's costs are below the expected costs, half of the savings are reimbursed to the district.

Authority and Responsibility for Facility Planning Has Been Established

As established in Board policy and outlined in the district organizational chart, the responsibility for facilities planning lies with the Facilities Services Department which is under the supervision of the Division of School Support Services. The specific areas indicated as the responsibility of Facilities Services are:

- Project Management
- Planning, Budgets and Reporting
- Plant Operations & Maintenance
- Safety Management

The subsequent organizational chart for the Facilities Services Department, titled “Organizational Architecture for Facilities Management” specifically places the responsibility for long- and short-term planning with the Assistant Superintendent. This organizational chart was adopted in July of 1998 and replaced the previous organization which included a planning, budget, and reporting division under the supervision of the Assistant Superintendent. The specific duties of the planning department (which was eliminated in 1997 due to budgetary limitations) included:

- Facility Requirements Identification
- DOE Compliance
- Budgeting and Accounting
- Consultant Selection and Management
- Information and Reporting Systems
- School Boundary Issues
- Site Selection

The elimination of the planning department has resulted in the Assistant Superintendent assuming the above responsibilities. The specific process for facility planning is outlined in the “Project Implementation Process” which calls for the development of a five-year plan for facility improvements and an accompanying project priority listing. The process calls for input from district staff, school staff, the board, and community members. The specific steps in the planning process are:

- A. Assess facilities needs as part of the overall planning process
 1. Provide an individual facility plan for each site to determine if needs can be met through redistricting, renovation/remodeling, new construction, modified school calendar, or portables.
 2. Make use of all current planning data including student projections and the educational plant survey.
 3. Advertise and conduct at least one public meeting to communicate district facility needs to the community.

- B. Communicate with other public agencies
 1. Assign a school board representative to communicate with appropriate organizations and report findings and information gathered to the Assistant Superintendent.
 2. Invite other user groups (adult education, senior citizen groups, county parks and recreation, etc.) to be involved in the facility planning.
 3. Solicit business partnerships to be involved in facility planning.
- C. Implement an efficient and effective site selection process
 1. Appoint a committee of appropriate persons to be responsible for the site selection process. (specifics of the committee process and membership are discussed on page 9-18 of this report)
 2. Acquire sites at least three to five years in advance of projected construction.
 3. Select sites to accommodate more than one facility on the property.
 4. Acquire acreage over what is required for immediate use to allow for future growth/use.
- D. Monitor existing schools at least every five years to identify needs
 1. Facilities department to conduct periodic inspections to consider building deterioration.
 2. Building administrators to submit periodic individual plant needs list.
- E. Expand facility planning tools
 1. Provide a functional state-of-the-art database containing needs as determined by the schools/district, costs for school construction, maintenance schedules and costs, management schedules and costs, and architectural specifications.
 2. Train appropriate personnel to utilize the database.
 3. Integrate the generated data into the assessment process, scheduling use, scheduling maintenance, individual school planning, energy management, and cost estimating.

The board rules and procedures regarding facility planning were most recently updated in July 1998 and reflect the above organization and procedures.

2 The district allocates adequate resources to develop and implement a realistic long-range master plan for educational facilities.

The district has allocated adequate resources to develop and implement a realistic long-range master plan within the budgetary constraints of the district. A five-year capital plan (1995 – 2000) has been developed and the priorities have been adhered to. The actual implementation of the five-year plan has differed from the original proposal but the annual updates have been board approved. The differences have been due to:

- the failure of a proposed bond for school construction in 1995;
- the elimination of the facilities planning department (with the duties assumed by the Assistant Superintendent); and

- the change from a traditional bid process to a construction manager at-risk process.

The District Has Developed a Realistic Five-Year Capital Plan for Facility Improvements

The latest five-year capital improvement plan was developed in 1995 and has resulted in the facility improvements that are currently occurring. The five-year plan called for \$375,000,000 in improvements. The district has not completed all of the priorities from that plan due to the failure of the bond levy but through other financing programs has completed a significant amount. In fact, approximately \$218,000,000 of projects have been completed through the use of the following primary funding sources that are available to the district:

- Public Education Capital Outlay (PECO) funds: Funds allocated by the state to each district based on a formula which calculates the square footage of buildings in the Florida Inventory of School Houses to be used to prolong the useful life of educational facilities.
- Capital Outlay Levy: District levies (up to 2 mills) that can be implemented without an election.
- Certificates of Participation (COPs): A lease purchase agreement, under which a payment obligation is created, which is guaranteed by a governmental unit, evidencing proportionate ownership in payments to be made by a governmental unit. COPs issued by a School board are limited, in that their annual payment obligation may not exceed three-quarters of the portion of the 2.0 millage issued for the use of capital improvements.
- Classrooms First Lottery Proceeds (Classroom First): A program adopted by the 1997 legislature during their special session to get Florida's children into permanent classroom facilities. The revenue for the program was generated by the bonding of lottery dollars, and allocated among the 67 counties on a one time basis. Use of the proceeds is restricted to the building of new student stations at school sites.

To the extent possible, the district has followed the recommendations from the capital outlay plan (within the constraints of the revenue sources, some of which were not known when the plan was developed). There is still, however, over \$150,000,000 of unmet need from the previous capital plan, which is reflected in the new educational plant survey.

Exhibit 9-5 provides a summary of the capital projects completed or in progress since the development of the five-year plan in 1995. Exhibit 9-6 reviews the capital projects currently underway in the district.

Exhibit 9-5

The District Completed Numerous Capital Projects From 1995 Through 1998

Project	Cost
Bayside High School (new school)	\$26,500,000
Central Jr. High (new school)	20,300,000
Clearlake Middle School Renovations	4,200,000
Lewis Carroll Elementary (new school)	6,500,000
Longleaf Elementary (new school)	8,800,000
Melbourne High Kitchen Renovation	700,000
Melbourne High School Phase I	8,300,000
Melbourne High School Phase II	10,000,000
Melbourne High School Remodel/Renovate	1,700,000
Palm Bay High Covered Eating Areas	100,000
Palm Bay High New Program Space	800,000
Performance Contracting @ 10 schools	6,100,000
Pinewood Elementary Addition	2,900,000
Sherwood Elementary (new school)	6,400,000
Titusville High Phase I	9,000,000
Titusville High Phase II	3,100,000
Westshore Jr/Sr High Renovation	4,400,000
Westside Elementary (new school)	8,500,000
Phase I Re-Roofing Projects³	
Apollo Elementary	\$ 600,000
Clearlake Middle School ⁴	0
Hoover Jr. High	1,600,000
Jefferson Jr. High	1,500,000
Johnson Jr. High	1,400,000
Palm Bay High	2,700,000
Rockledge High Auditorium	800,000
Roy Allen Elementary	400,000
Saturn Elementary	1,000,000
Total	\$138,300,000

Source: Brevard County School District.

³ Phase I re-roofing projects were those deemed to be the highest priority and included in an overall construction management contract. Phase II projects are reflected in the current projects listed Exhibit 9-6 below.

⁴ Roofing costs are combined with Clearlake Renovation costs.

Exhibit 9-6

The District Has Numerous Capital Projects in Progress (Spring 1999)

Project	Cost
Astronaut High Re-Roof	\$ 1,600,000
Bayside High Phase II	8,400,000
Cambridge Elementary Re-Roof	600,000
Cocoa Beach High Re-Roof	1,800,000
Coquina Elementary Re-Roof	800,000
Eau Gallie High Addition	8,300,000
Eau Gallie High Re-Roof	5,500,000
Elementary "Q" (new school) ⁵	10,700,000
Gardendale Elementary Re-Roof	800,000
Lockmar Elementary Re-Roof	300,000
McNair Middle Re-Roof	800,000
Melbourne High Phase III Addition	5,800,000
Merritt Island High Re-Roof	2,100,000
Oak Park Elementary Re-Roof	1,300,000
Ocean Breeze Elementary Re-Roof	700,000
Performance Contracting @ 82 school/facilities	11,300,000
Ralph M. Williams Jr. Elementary (new school)	9,200,000
Riverview Elementary Kitchen Addition	700,000
Roy Allen Elementary Kitchen Addition	700,000
Satellite High Re-Roof	1,700,000
Sea Park Elementary Re-Roof	700,000
Stone Jr. High Re-Roof	1,300,000
Titusville High Phase III Addition	800,000
Titusville High Re-Roof	1,600,000
Tropical Elementary Re-Roof	1,000,000
West Shore Jr/Sr. High Re-Roof	1,100,000
Total	\$79,600,000

Source: Brevard County School District.

⁵ This project is funded as a "Classroom First" project, but may be delayed.

In the development of the five-year plan, the district met the following best practice indicators:

- **FISH data.** The FISH data were up to date when the current five-year plan was developed. In preparation for the development of the new plan, the district has employed a construction estimator/scheduler that has actually been serving as the coordinator for the development of the new five-year plan (as well as providing some project management assistance). He has spent significant time updating the FISH data that will be contained in the new plan.
- **Utilization of building capacity.** The 1998-99 edition of the student accommodation plan lists all schools by square footage, the FISH capacity, and the number of portable classrooms on site. These data are compared with both the current enrollment and the projected enrollment. These data reflect a districtwide excess capacity of 9,065 students (14.6%) utilizing the current enrollment figures and 3,004 students (4.4%) using the projected figures. Individual schools vary from being more than 400 students over capacity (Palm Bay High and Anderson Elementary) to more than 400 students under capacity (Bayside High). It is important to point out that Bayside is a new school that will gradually take students that would have gone to Palm Bay.
- **Attendance Boundaries have been changed.** Boundaries have been changed when there has been no alternative, as in the case of adding new schools. Other than in those instances, however, boundary changes have not been looked at as a way to solve overcrowding problems. The student accommodation plan speaks to freezing out of area assignments at particular schools and the use of portables, but does not look at the feasibility of boundary changes.
- **The plan addresses peaks and valleys.** Both the educational plant survey and the student accommodation plan speak to the peaks and valleys that will occur at specific schools and the need to address the issue. The common practice has been to use portable classrooms to meet peak demand for classroom space and to remove them when they are no longer needed.
- **Use of square footage allocations identified in SREF.** The listings in the educational plant survey comply with SREF (State Requirements for Educational Facilities) requirements.
- **Higher priority to instructional capacity needs.** The last five-year plan divided the priorities into those that were necessary to meet the instructional capacity needs and the need for upgrading the building systems. For example, in the past five-year plan the renovation and replacement of roofs received a high priority. While the new five-year plan is not yet complete, there are strong indications that upgrades to mechanical systems will be placed high on the priority list. Overall, however, the district has attempted to address instructional capacity needs through classroom additions and new facilities. In addition, the plan for the use of classroom use funds is geared toward additional classrooms.
- **Projects are given estimated budgets and the items prioritized.** The overall budget for each project is included in the five-year plan, is negotiated with the construction contractor as a “maximum price” contract and is shown on the Capital Projects Listing that is reported to the Board.
- **The plan has been reviewed with local government.** The district participates in the local planning process with cities throughout the county and has involved local agency planners in the development of the five-year plan.

- **Renovation and repair needs have been identified.** The five-year plan emphasizes repair and renovation needs. Each school has been evaluated over the past five years, the asset management plan details the repair and renovation that is needed at each facility, and the district has recently completed major repair and renovation projects.
- **New schools designed to accommodate expansion.** The new elementary schools are a prototype plan that is built to accommodate 950 students and could not easily be expanded with permanent structures. (The goal is to limit capacity at elementary schools to no more than 950 students) The sites are planned with portable placement in mind, but the goal is to reduce the number of portables districtwide. The situation is the same for middle schools, which are designed for a capacity of 1,683. There has only been one new high school completed recently (Bayside) and it has been planned with permanent expansion planned.

Both the educational plant survey and the capital improvement plan address the estimated revenues and expenditures.

The district provides an accountability component to the process through the insurance that all available capital resources are being applied toward the achievement of the long-range plan. This is reported in the regular (quarterly) submission of a “Facilities Capital Projects” report to the Board. This report provides the board with information about each project that has been included in the capital improvement plan and is currently in design and/or progress of construction.

New Construction Time Lines are Ambitious

The time frame for new construction in Brevard County is ambitious. The five-year plan allows for site purchases and board action but allows minimal time for completion of the project. In the case of the new prototype elementary schools, the time frame for completion of construction has been planned for an eight-month time period. This, combined with the change to a construction manager at risk program, has resulted in the overall tenor of the department to be on a “fast track” operation.

In most cases, however, the district has met the time frames that they have aggressively set. Longleaf Elementary, Westside Elementary, Bayside High School, Central Middle School (the most recent new school projects) all opened according to schedule (although Bay Side high school had a significant amount of finish work that needed to be completed when it opened). The newest elementary (Ralph M. Williams Jr.) is currently under construction with opening set for the Fall 1999.

The case with modernizations and improvements is somewhat different in that the district has made the decision to lump numerous projects together and contract with a construction manager at risk for the entire group of projects. A good example is the recent roofing projects that provided new roofs at 16 schools. The purpose of combining projects is to reduce costs, allow for timely completion, and attract bidders that may not otherwise respond.

3 The district has not established a standing committee that includes a broad base of school district and community stakeholders.

The district established a committee for the development of the previous five-year capital plan but there will need to be a committee reestablished as the new five-year plan is developed, prioritized and adopted.

The district does not have a standing committee that includes a broad base of school district and community stakeholders.

District Needs to Form a Broad Base Facilities Committee for the Development of the New Five-year Plan

In order to assist with the development of the five-year capital outlay plan, the district formed two committees. The first, designated the capital planning team, was composed of 50 persons representing faculty, staff, parents, and planning professionals. The second group, designated the Capital Outlay Committee, was composed of 20 members appointed by the Board (four appointees per Board Member).

The capital planning team divided into 12 groups (approximately four members in each group) to thoroughly review a specific set of facilities and make recommendations for improvements. Care was taken to see that no member would make recommendations concerning their particular school or facility. The recommendations of the capital planning teams were then passed on to the Capital Outlay Committee who developed the recommendations into the five-year plan. Records indicate that the committee approved the five-year plan by an 11 – 0 vote. (There were 11 of the 20 members present at that particular meeting.)

The Capital Outlay Committee members were provided with direction from the district regarding the development of the five-year plan and understood their particular goals and mission. Once they submitted their recommendations, however, they have not met to discuss any changes to the five-year plan. In effect, the committee disbanded at the completion of the development of the five-year plan.

Recent legislation will require the district to form a standing committee and the district has recently (Summer 1999) complied by forming a committee to again complete the process of developing a new five year capital improvement plan. The guidelines and process for this committee are included in the recommendation and action plan below.

Recommendation

- *The district should create a standing facilities committee from the current capital outlay committee. The committee should have the following goals, guidelines, and objectives in place to help guide their function. The goals and objectives of the committee should include:*
 1. *The approval of criteria for establishing capital outlay priorities.*
 2. *The review of the capital outlay needs throughout the district.*
 3. *Based on the priority criteria established, the review of capital outlay needs, other information gathered by committee and information supplied by district staff; recommend a five-year capital improvement plan for Board adoption. The plan should include:*
 - *a project list and schedule;*
 - *the scope of work for each project; and*
 - *project budgets.*
 4. *Periodically review and update the status of work on the long-range plan.*
- *The committee should be formed and act in accordance with these guidelines:*

1. *Membership is to be broadly representative of the community.*
 2. *Members are to be free of conflict of interest.*
 3. *The committee membership will total 25 individuals; four selected by each Board member and five by the Superintendent.*
 4. *Committee membership will be solicited from citizens throughout the district with overall appointment based on:*
 - *geographical representation;*
 - *variety of professional backgrounds; and*
 - *representation from the business community, parents, senior citizens, the public sector and students (as appropriate).*
 5. *The committee will be formed at the beginning of each five-year capital plan and will be assigned the following major responsibilities:*
 - *The committee will be a standing committee of the Board with the primary responsibility of assisting the district with the development of the long range capital plan.*
 - *After adoption of the long range plan by the Board, the committee will be reconvened periodically to review the status of work on the long range plan, consider any changing parameters and to make recommendations to the Board for adjustments.*
 6. *Committee members will select a chairman and vice-chairman from among the membership.*
 7. *The committee will be assisted by district staff who will provide materials and information as requested, prepare agendas for committee meetings (in consultation with the committee chair), keep minutes of all committee meetings, and prepare recommendations to the Board based on the committee decisions.*
- *Action Plan 9-1 provides the steps needed to implement this recommendation.*

Action Plan 9-1

Establish a Standing Facilities Committee

Recommendation 1	
Strategy	Utilize the capital outlay committee in the establishment of a standing facilities committee.
Action Needed	<p>Step 1: Assistant Superintendent should develop criteria and procedures for the committee and present to the board for approval.</p> <p>Step 2: District should solicit for staff and community members to serve. The criteria and procedures as outlined above needs to be communicated to all committee members.</p> <p>Step 3: Superintendent should appoint facilities committee members.</p> <p>Step 4: Assistant Superintendent should coordinate committee activities.</p>

Who Is Responsible	Assistant Superintendent for Facilities.
Time Frame	Development of criteria - Summer 1999 Board approval – Summer 1999 Committee appointed and in operation – Summer 1999
Fiscal Impact	This can be implemented with current resources.

4 The district has assigned one person with the authority to keep facilities construction projects within budget.

The district has assigned one person with the authority to keep facilities construction projects within budget. Position descriptions specifically state the budgetary responsibilities of the Director of Project Management and the Assistant Superintendent.

The Director of Project Management Has Financial Responsibility for Construction Projects

The position description for the Assistant Superintendent for facilities management states that he is responsible for the development and implementation of the long-range plan. In addition, the position description for the Director of Project Management states that this individual is responsible to manage construction budgets and schedules and to assist the Assistant Superintendent in the implementation of the plan.

The descriptions for both positions require construction management experience, a degree in architecture, engineering, or building construction; a minimum of five years supervisory experience; and experience in project management, computerized scheduling, planning, cost control, and accounting.

An examination of the resumes of the individuals that serve in these positions verifies that both individuals have the required experience and qualifications.

The accountability for construction budgets is verified in the quarterly reporting of the budget status that is submitted to the board.

5 The district has not assigned budget oversight of each project or group of projects to a single project manager.

Project Management Responsibilities Are Shared

The responsibility for the oversight of project budgets in the district is the responsibility of the Director of Project Management. The project manager's responsibilities include the day-to-day supervision of specific projects and the coordination of project meetings. Because the district only has one project manager currently on staff, the construction scheduler and the Director of Project Management have also been assigned these duties for specific projects.

The district has established the minimum credentials and construction experience for project managers. According to the position description the following is required:

- a Bachelor's Degree with major course work in building construction, architecture, engineering, or equivalent;
- experience in building construction and/or facility planning;
- experience in administration of construction contracts;
- knowledge of the Uniform Building Code and Florida School Laws;
- knowledge of building design and construction; and
- ability to manage construction activity and personnel.

These minimum requirements are adequate and an examination of the resume of the individual that serves in this role verifies that the district has placed a qualified person in the position. However, with only one project manager and over 25 projects currently in process, the district has been forced to assign additional personnel to the role. While these individuals have the required experience and requisite credentials, there is no guarantee that future personnel assigned to fill in as project manager will have the necessary credentials. Moreover, personnel are being diverted from their primary duties and are thus unable to give their primary job functions proper attention. This has resulted in a lack of overall planning as reflected earlier in this report.

If personnel (specifically the project management director and cost estimator) were not assigned project management responsibilities above and beyond their regular job functions, one project manager would be responsible for over 25 projects and to oversee budgets totaling over \$130,000,000. This is clearly unreasonable, particularly with the distance involved between projects. As the district is currently organized, one project manager is expected to oversee more projects than is reasonable. The only way in which the district is able to cope with the situation is to divert other personnel from their regular duties. While it is possible for personnel to fill in as needed temporarily, an additional project manager position would greatly alleviate this problem. While this situation has not had documented adverse effects, the district should document the project management workload to determine if additional project manager positions would be advisable.

The Project Manager, according to the organizational chart, reports directly to the Director of Project Management who has responsibility for the implementation of the five-year plan.

Recommendations

- *The district should define the role of Project Managers to give them responsibility for the oversight of the budget for their assigned projects. This is not in conflict with the duties of the Director of Project Management who has the overall responsibility for the construction budget.*
- *The Director of Project Management should develop a workload analysis of the current project management responsibilities and present a report to the School Board documenting the need for additional project manager positions.*
- *Action Plan 9-2 provides the steps needed to implement these recommendations.*

Action Plan 9-2

Assign the Budget Oversight for Each Project or Group of Projects to a Single Project Manager

Recommendation 1	
Strategy	Assign the budget oversight for each project or group of projects to a single Project Manager.
Action Needed	Step 1: Define the role of the Project Manager to include the responsibility for budget oversight. Step 2: Define the qualifications necessary to carry out the role of Project Manager. Step 3: Communicate the responsibilities and qualifications to district staff.
Who Is Responsible	Assistant Superintendent.
Time Frame	Fall 1999
Fiscal Impact	This can be implemented with current resources.
Recommendation 2	
Strategy	Review the need for additional project managers.
Action Needed	Step 1: Monitor the workload of the current project manager. Step 2: Document the additional duties that other facilities personnel are required to assume due to the need for additional project managers. Step 3: Present a report to the School Board documenting the need (if any) for additional project manager positions.
Who Is Responsible	Director of Project Management.
Time Frame	July 2001
Fiscal Impact	This recommendation can be implemented with existing resources.

Are the Best Practices for Using a Capital Planning Budget Being Observed?

Goal: The district balances facility needs, costs, and financing methods through a capital planning budget.

- 1 The district uses a capital planning budget based on comprehensive data collected in the early stages of the master plan.**

The district prepares a capital planning budget and bases it on reasonable demographics, enrollment projections, and an annual needs assessment.

The Educational Plant Survey Serves as the Basis for the Development of the Capital Planning Budget

The Brevard County School District annually prepares a capital planning budget that is based on the five-year capital plan. The budget is developed with input from facility division personnel, principals, area superintendents, the Superintendent and the district financial officer. The budget is presented annually to the Board for their approval. The Board receives quarterly updates regarding the status of budget expenditures. This quarterly status is presented in the “Facilities Capital Projects” document.

The projects are prioritized for inclusion in the plan based on the priorities established in the educational plant survey. The Department of Education, as authorized by statutes and DOE regulations, requires that an educational plant survey is completed every five years. The purpose of the survey is to document the facility needs of the school district on a school by school basis and to identify which capital projects may be initiated. The new Educational Plant Survey, by law, supersedes all previous surveys. Previous recommendations, which have not been implemented, shall not be eligible for the expenditure of state capital outlay funds unless recommended in the new survey. Each new survey document is the benchmark for planning and initiating the projects, and for measuring progress on the total plan.

The priorities included in the survey are separated into new construction and renovations based on:

- New school construction is based on an analysis of the current capacity of each school (see exhibit 9-12, page 9-34), the existing enrollment, and the projected enrollment by region.
- Facility improvements (renovations) are based on the annual evaluation of each facility. This evaluation includes consideration of space needs, the physical condition of the building and operational concerns.

The overall facility needs were projected over a five-year basis when the five-year capital plan was developed, but were changed substantially when the bond referendum failed. Within the original five-year plan, there is little mention of alternative programs or alternative sources of revenue. This plan was to be funded on traditional state sources and a local bond. Over the term of the five-year plan, however, a number of alternate funding sources were utilized in order to meet the needs to the highest degree possible in light of the bond failure.

Overall, the district is meeting the best practice indicators in terms of basing the capital budget on an analysis of demographics and enrollment projections, a projection of the facility needs on a yearly basis over the next five-year period, the costs associated with each project, and the sources and availability of projected revenue. There is little evidence, however, of a thorough discussion of construction alternatives (as will be discussed later in this chapter).

The district has not utilized local bond or sales tax revenue for the construction of recent projects. In 1995, the district sought voter approval of a \$375,000,000 bond referendum, but that referendum failed. However, in the case of this failed referendum, the scope of projects and use of funds were clearly spelled out in the advertisements for the referendum.

2 In developing the capital planning budget, the district considers innovative methods for funding and financing construction projects.

The Brevard County School District has utilized a variety of funding sources and has constructed schools in a frugal manner. Their efforts have resulted in financial rebates through the state SIT award process.

The District Has Utilized Non-Traditional Funding Sources

The proposed funding for the original five-year capital outlay plan did not include non-traditional methods. The proposed funding was based on COPS (the two mill capital outlay levy that is allowed without a vote), state funding from PECO (Public Education Capital Outlay), interest earnings, and a proposed bond referendum. The bond referendum was placed on the ballot in 1995. The Board resolution for this referendum indicates they were seeking an aggregate principal amount of \$350 million for the purpose of “financing the cost of acquiring, building, enlarging, furnishing or otherwise improving buildings or school grounds, or for any other exclusive use of the public schools within the such District.” The bond measure failed to win the necessary votes.

Since the failure of the bond, by necessity, the district has utilized the following sources that could be considered non-traditional:

- **Refinancing of the COPS funds.** Since interest rates have dropped the refinancing of existing projects resulted in over \$61 million in additional revenue.
- **Revenue Anticipation Notes (RANS).** This process has allowed the district to borrow against future revenues. While this will limit flexibility in the future, it has provided approximately \$33 million to put toward current needed facility improvements.
- **District Direct Purchasing.** The district has purchased materials directly that would normally be purchased by a contractor. This automatically results in the sales tax savings since contractors have no exemption from the sales tax requirements, regardless of their client. School districts, however, are exempt. Buying materials directly is a practice occurring more frequently in school districts throughout Florida and the nation.
- **SIT Awards and Florida Power and Light Rebates.** The Florida Power & Light rebates have resulted in a savings of \$120,000 and \$450,000 on recent elementary and high school projects, respectively.

The District Has Minimized Facility Costs

The district has put a good deal of effort toward keeping the costs of new facilities at a minimum. Since the elimination of the planning department, the planning process has consisted primarily of utilizing existing prototypes and facility plans from other districts that are adapted for use in Brevard County. This adaptation has involved an examination of the building to include the following:

- an evaluation of the building systems to see where costs could be reduced;
- an evaluation of the building design to see where costs could be reduced;

- an evaluation of the overall size of the building and the sizes of individual spaces to examine their ability to house district programs; and
- the ability to site adapt the design.

The result of this process has been very functional, but somewhat austere, school facilities that have been constructed at minimal costs. Exhibit 9-7 provides the cost comparison data for schools recently constructed in the district. As can be seen, the district’s average costs per square foot and per student station have been lower than the state averages at all three school levels. This exhibit reflects a cost per student station in Brevard County that is below the state average by 35 percent at elementary schools, 13 percent at middle schools and 34 percent at high schools. These low facility construction costs (both per square foot and per student station) in Brevard County has resulted in the district being awarded rebates through the State SIT award calculation process. In the case of Longleaf Elementary School, the district received a rebate of \$1,570,514.

Exhibit 9-7

District’s School Facility Project Costs Are Less Than the State Average

School Type	1992 – 1997 Average Cost per square foot		1992 – 1997 Average Cost per Student Station	
	State	Brevard	State	Brevard
Elementary	\$101.64	\$81.00	\$11,673	\$7,616
Middle	\$106.55	\$84.00	\$13,403	\$11,724
High	\$122.22	\$107.00	\$18,309	\$12,158

Source: Brevard County School District.

3 The capital planning budget accurately list facility needs, costs, and recommended financing for each year of a five-year period.

The district regularly updates the five-year plan that accurately lists facility needs, costs, and recommended financing for the five-year period. This plan is submitted annually to the board for approval.

Facility Costs Are Included in the Five-Year Capital Plan and the Annual Budget

The annual capital budget accurately reflects the overall facility needs of the district. The five-year capital plan includes the projected projects for each year (updated annually) and the recommended funding sources. The budget reflects site purchases, including site expansion, new construction, remodeling, renovations, and site improvements. The annual facilities work program reflects the costs of deferred maintenance. The specific costs for facilities projects (as reported in the executive summary of the facilities work program for the 1998-99 year) are shown in Exhibit 9-8.

Exhibit 9-8

District’s Projected Needs Through 2002-03 Are in Excess of \$380 Million

District Need	1998-99 Budget	Projected needs through 2002-03
Deferred Maintenance	\$4,718,500	\$68,247,280
Maintenance projects	\$2,683,810	\$12,696,907
Portable Leases/Repairs/Moves	\$1,200,000	\$2,745,790
Roof Replacement	0	\$7,951,093
Life Safety Projects	\$298,201	\$1,200,000
Health & Safety Projects	\$2,704,791	\$19,423,895
HVAC system upgrades/replacements	\$1,350,000	\$88,452,000
New Construction	\$43,146,937	\$180,821,649
Special Projects	\$3,077,998	\$7,983,000
Total	\$59,180,237	\$381,538,614

Source: Brevard County School District.

The itemized cost of each project is included in the five-year capital plan, the educational plant survey, and the budget submitted annually to the board. This itemized budget amount was established originally through the development of the capital plan and then updated when included in the annual budget. The actual expenditure amount is established when the contract is negotiated with the construction manager for most major projects. The district has moved to a construction manager at risk program (discussed below) so the total not-to-exceed amount is determined at that time.

The total cost of each project is the responsibility of the project management function which falls under the Assistant Superintendent of Facilities Services. The Project Management is responsible not only for negotiating with contractors for building services, overseeing construction projects, and ensuring vendor compliance with construction contracts, but also for project accounting. The department currently has two chief accounting clerk positions responsible for maintaining the accounting records for construction projects.

The district builds new schools using a “turn-key” process. In this process, an entire school is planned and budgeted to include all construction costs and the cost of equipping the school facility with furniture, fixtures, and equipment.

In addition, the district uses a "construction manager (CM) at risk" form of contracting for school construction. The construction manager at risk concept provides for a pre-approved profit for the construction project, and that any cost overruns will be absorbed by the CM. This process is designed to eliminate the cost overruns and excessive change orders often encountered in construction projects.

All expenditures associated with construction projects are reviewed at several levels. First, all invoices are submitted to construction inspectors in the Project Management Department. After review and approval, inspectors submit invoices to the CM at risk for review and approval. The CM submits the invoices back to the Chief Accounting Clerks in the Project Management Department for coding and preparation for

payment. Invoices are then sent to the Accounting Services Department for final review and payment processing.

The Associate Superintendent of Financial Services, the Assistant Superintendent of Facilities Services, and the Director of Accounting Services, prior to presentation for school board approval, prepare detailed project budgets. The Project Management Department is charged with monitoring actual expenditures and comparing to budgeted expenditures.

Are the Best Practices for Selecting and Acquiring School Sites Being Observed?

Goal: The district uses a proactive system to select and economically acquire proper school sites in a timely manner.

1 Broadly representative site selection committees have been utilized in advance of expected need.

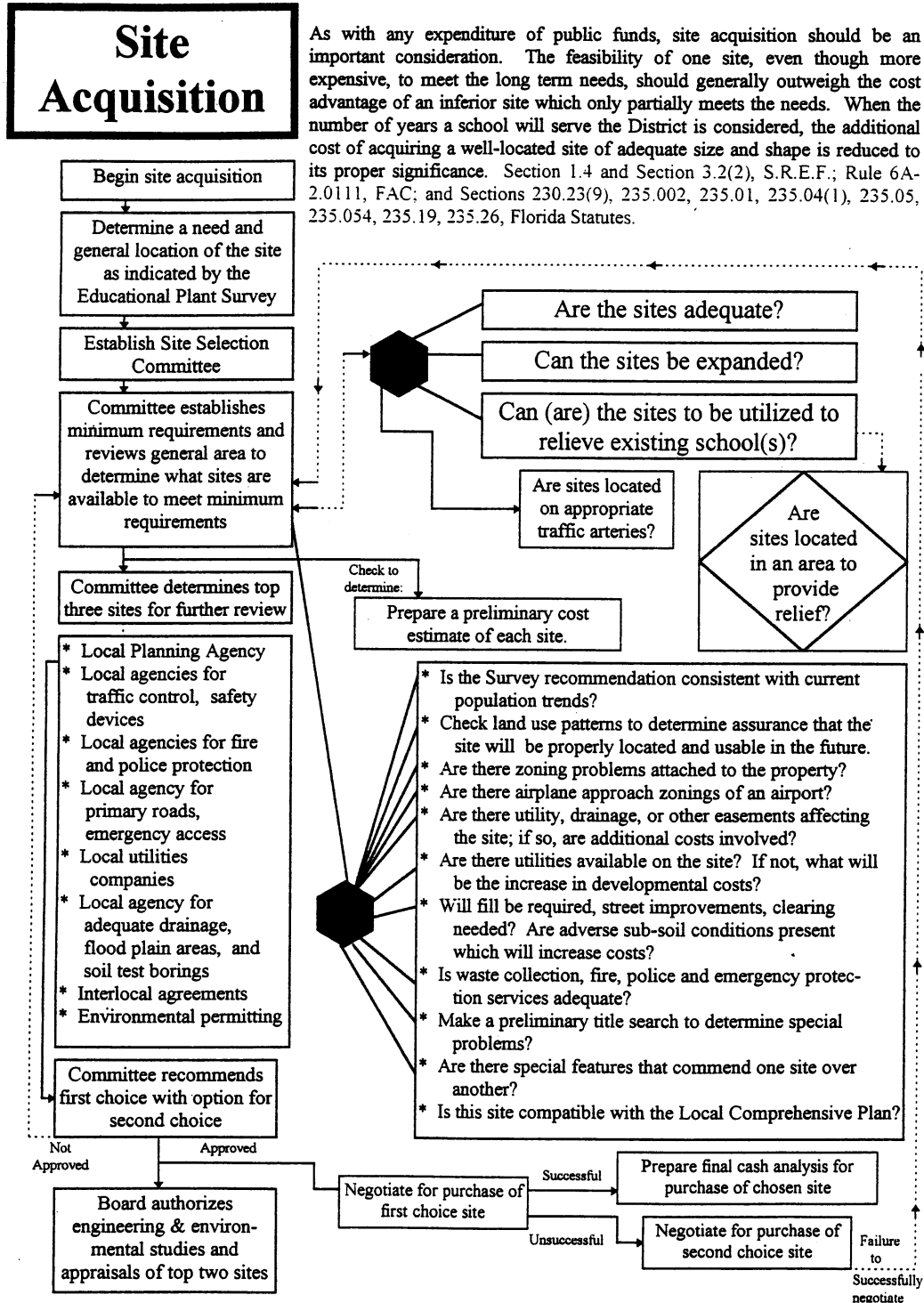
The district has an established site selection process and has appointed committees to assist with the process.

Brevard County Has an Established Site Selection Process

Exhibit 9-9 demonstrates the site acquisition process currently utilized in the Brevard County School District. This process is currently under review and is scheduled to be updated during the 1999-2000 school year.

Exhibit 9-9

District's Site Acquisition Process Follows Florida Guidelines



Source: Brevard County School District.

In accordance with the site acquisition process, the district has formed broadly represented site selection committees. The make-up of the committees has included facilities department staff, educational staff, local government representation, and community members. The process in Brevard County includes the following elements:

- The procedures require that a site selection committee review potential sites and recommend sites to the Board in priority order.
- Site selection committees assist in the site selection process.
- The site acquisition process meets the requirements of Florida Law and the State Requirements for Educational Facilities. These requirements concern the consideration of the most economical and practical locations and the minimum site size needed by type of school.
- Architects and local government planners have been included on the site selection committees.
- Site selection has occurred in advance of the projected need.

2 The district has developed school site selection criteria to ensure that schools are located to serve the proposed attendance area economically, with maximum convenience and safety.

The district uses a site selection criterion that requires the committee to take location, cost, convenience, and safety into consideration.

Brevard County Has Adopted Site Selection Criteria

As shown previously in Exhibit 9-7, the broad based site selection criteria in the district are:

- Are the sites adequate?
- Can the sites be expanded?
- Can the sites be utilized to relieve existing school(s)?
- Are the sites located on appropriate traffic arteries?
- Are sites located in an area to provide relief?

Exhibit 9-10 below crosswalks the district's process and procedures with the indicators for school site selection best practice and demonstrates how the district meets the best practice indicators.

Exhibit 9-10

District’s Site Selection Criteria and Process Meets Best Practice Indicators

Best Practice Indicator	Brevard County Process
Safety	Are fire, police and emergency protection services adequate?
Location	Consistent with current population trends Located in an area to provide relief
Environment	Land use patterns Environmental Study Required Involvement of Environmental Permitting Agency
Soil Characteristics	Soil Conditions Analysis Required
Topography	Drainage and Flood Plain Status
Size and Shape	The size meets the requirements of SREF (State Requirements for Educational Facilities)
Accessibility	Located on Appropriate Traffic Arteries
Site Preparation	Development Costs
Public Services	Availability of Police and Fire Protection
Utilities	The availability of Utilities
Costs	Development Costs Availability and Price
Availability	Availability and Price
Political Implications	Compatible with Local Comprehensive Plans
Transportation	Located on Appropriate traffic Arteries

Source: MGT analysis.

Minutes of the site selection committee meetings demonstrate that the district’s site selection criteria were considered prior to making final recommendations. Minutes also demonstrate that preliminary reviews and tests (geological, toxic, flood, airport proximity, etc.) were conducted prior to the final selection.

3 The board considers the most economical and practical locations for current and anticipated needs.

Recent site analyses include consideration of the most economical and practical locations for current and anticipated needs. The board considers the most economical and practical locations for current and anticipated needs, including such factors as need to exercise eminent domain, obstacles to development, and consideration of agreements with adjoining counties.

District Site Analysis Has Been Thorough

The Board has relied on the site selection committee to consider the obstacles to development and include their evaluation within their recommendations. The recommendations from the committees have included these considerations as indicated in the site selection criteria.

The site selection committees utilize the selection criteria outlined previously to evaluate several sites. The Board has then relied on their evaluations and has accepted the recommendations. As required by the State Requirements for Educational Facilities (SREF), the committees have coordinated efforts with the local planning departments and have considered the following factors:

- Adjacent Property
- Right-of-way
- Interference
- Roads
- Traffic Control
- Size
- Floodplain
- Outdoor use
- Transmission Lines
- Archeological resources
- Utilities
- Protection
- Soil borings
- Clear title
- Easements
- Potentially hazardous materials
- Environmental management

The committees have ranked sites according to the selection criteria and the Board has consistently accepted the recommendations that compare favorably with the established criteria.

The district has not seen the need to pursue condemnation or to use eminent domain in the site selection process.

4 The district has a system to assess sites to ensure prices paid reflect fair market value.

The district has a system to assess sites to ensure prices paid reflect fair market value. District procedures call for independent appraisals of the top two sites as determined by the site selection committee.

Appraisals Are Completed for Final Sites Being Considered

Included within the recommendations for site purchase are independent appraisals for the top two sites as determined by the site selection committees. The appraisals include the following criteria, as required by Florida Statute:

- All offers are executed in writing.
- The district maintains complete written records of all offers, counter offers, etc.
- There is at least one appraisal for properties costing between \$100,000 and \$500,000.
- There are at least two appraisals for properties costing in excess of \$500,000.

The final prices paid by the district reflect fair market value as determined by the independent appraisals.

5 For each project or group of projects, the architect and district facilities planner developed a plan to serve as a decision-making tool for future facilities needs.

The project Architect and District Facilities staff have developed a plan to serve as a decision-making tool for future facilities needs. All facility plans include a proposed site plan for future development, including the proposed siting for future additions and temporary classrooms, expanded parking facilities, etc.

Project Plans Include Provisions for Future Changes and Additions

The district Facilities Department has on file plans for all facilities that include existing conditions (including buildings and grounds) and, for all recent projects, plans for future additions. The plans include the proposed layout of buildings and grounds, parking and roads, playfield areas, and proposed future additions and the expansions that will be necessary to accommodate the sites maximum proposed enrollment. All plans were completed by architects.

Are the Best Practices for Identifying Site and Facility Needs Being Observed?

Goal: The district identifies future needs for sites and facilities based on an analysis of valid enrollment projections.

1 The district identifies facilities needs based on thorough demographic study.

The district utilizes the demographic data reported in the annual student accommodation plan to identify facility needs.

Demographics Are Reported in the Annual Student Accommodation Plan

The district regularly conducts a demographic study. The results are reported in the annual update of the "Student Accommodation Plan" prepared by the district. Data in the plan include:

- current enrollment at each facility;
- projected enrollment at each facility (This figure is based on the enrollment forecasts prepared by both the state and the district and a district review of demographic changes occurring in each area of the county);
- the design capacity for each school; and
- the number of portables at each school.

These data are analyzed and then utilized in the recommendations to be included in the annual update to the five-year capital plan. The 1998-99 version of the student accommodation plan includes recommendations regarding the opening of four new schools and the changes in demographics that will result; the relocation of students in the Palm Bay area in order to alleviate capacity problems; and the process for approval of out-of-area assignments.

Enrollment Projections are Compared to Capacity

Within the student accommodation plan, enrollment projections for each school are compared with the design capacity (FISH) and the percent utilization is subsequently reported. Exhibit 9-11 shows the total FISH capacity, the 1998-99 enrollment, and the difference, which is utilized to project facility needs. As the exhibit shows, the areas of the district vary in from over capacity in some school levels to under capacity in others.

Exhibit 9-11

District Areas Vary in Extent of Over or Under Capacity

Area	School Type	Student Capacity	Student Enrollment	# (Under)/ Over Capacity
I	Elementary	12,005	12,098	(93)
I	Middle	4,257	3,570	687
I	High	4,808	4,989	181
II	Elementary	10,331	9,459	872
II	Middle	2,766	3,268	(502)
II	High	4,948	4,561	387
III	Elementary	8,297	8,338	(41)
III	Middle	3,655	3,837	(218)
III	High	4,732	3,990	742
IV	Elementary	8,743	7,719	1,024
IV	Middle	2,901	2,625	276
IV	High	3,695	3,643	52

Source: Brevard County School District.

The student accommodation plan takes into account school boundaries, city/county comprehensive plans and possible land use changes. In addition, the enrollment projections are presented to the board for their review annually by the Finance Department. Demographic studies are supported through the development of the FISH projections but could be better defined for planning purposes through the addition of a facilities department planner (as recommended below).

Are the Best Practices for Systematically Determining the Student Capacity and Educational Adequacy of Existing Facilities and Alternatives to New Construction Being Observed?

Goal: The district systematically determines the student capacity and educational adequacy of existing facilities and evaluates alternatives to new construction.

1 The district uses the Florida Inventory of School Houses (FISH) inventory to analyze student capacity and classroom utilization.

The district uses FISH data to analyze student capacity and classroom utilization.

FISH Data Are Reported in the Educational Plant Survey

The district keeps the FISH data up-to-date through a process where all new space is reported to the Construction Estimator/Scheduler who is responsible for updating the data. In addition, the district keeps an annual “Asset Management/Capital Improvement Summary” that includes the following data for each school:

- design capacity, program capacity, and enrollment information (current and projected);
- site size and number of buildings (permanent and temporary);
- a facilities overview;
- support facilities included;
- school boundaries; and
- improvements (and cost estimates) recently completed, in progress or planned.

The facilities department utilizes this information in conjunction with the FISH data to determine satisfactory spaces (and correspondingly, those spaces that are not satisfactory), the space needs at each school, and the overall capacity. The overall capacity is determined by applying the space factors contained in the State Requirements for Educational Facilities (SREF). The SREF space factors provide guidance for the planning of all space types (e.g. Classrooms & Labs, Physical Education, Locker Rooms, Vocational, etc.) by providing recommended occupant levels and net square feet per student. The results of this analysis are contained in the Educational Plant Survey.

Exhibit 9-12 shows the current satisfactory capacity by school level and current student enrollment. The district has set as a goal 100 percent utilization at elementary schools, 90 percent at middle schools, and 95 percent at high schools, meaning that all available student spaces are utilized in elementary schools, 90 percent in middle schools, and 95 percent in high schools. As the exhibit shows, current student enrollment is just slightly less than current satisfactory capacity.

Exhibit 9-12

Current Satisfactory Capacity Exceeds Current Enrollment

School Type	Current Satisfactory Capacity	Current Student Enrollment
Elementary (at 100% capacity)	39,376	37,614
Middle (at 90% capacity)	13,579	13,336
High (at 95% capacity)	18,183	17,183

Source: Brevard County School District.

2 The district completes an annual school status report – an evaluation of the physical condition and education adequacy of existing facilities that ensures that school facilities’ inventories are up-to-date.

The Associate Superintendent for Facilities serves as the district’s Facilities Planning Leader. The Facilities Planning Leader, in cooperation with the Instructional Leader and the Director of Maintenance and Operations, conducts an evaluation of the physical condition and education adequacy of existing facilities and ensures that school facilities inventories are up-to-date. The district completes annual evaluations of each school facility and compiles the results in the Asset Management Summary.

Evaluation Results Are Compiled in the Asset Management Summary

As a part of the process for the development of the new five-year capital plan, the district has completed facility assessments at each school and has retained outside services to validate the information. The process has included the instructional leader as well as facility department staff. In addition, the maintenance department conducts an annual school safety inspection in conjunction with the school administrator. A good deal of this information is included in the Asset Management/Capital Improvement summary, which is a database that is compiled annually to provide the following inventory for each facility:

- design capacity;
- program capacity;
- site size;
- year opened;
- temporary buildings on site;
- actual and projected enrollments for a five-year period;
- a Facilities Overview Narrative;
- an Inventory of Support Facilities (e.g. playgrounds, auditorium, stadium, media center, driver training area, swimming pool, covered play areas, etc.);

- school boundaries;
- capital projects completed (listed by year);
- capital projects currently in progress; and
- capital projects planned (listed by the year planned).

Since a good deal of the information required by the best practice indicators is included in different publications, Exhibit 9-13 lists the facilities evaluation processes in use in Brevard County and crosswalks this information with the best practice indicators. As the exhibit shows, the district largely meets the best practice requirement to annually complete a school status report.

Exhibit 9-13

Crosswalk of Brevard County Facility Evaluation Process with Best Practice Indicators

Best Practice Evaluation Criteria	Brevard County Evaluation Process
Site (size and layout)	Asset management/capital improvement summary
Space (size, number, utility and flexibility of various areas in the facility and the relationship of these areas to each other)	The number and size of spaces are included in the Educational Plant Survey. A discussion of the relationship of spaces is included in the annual facility evaluation.
Mechanical and Utilities (light, heat, air, sound, availability of utilities)	Annual Evaluation
Hazardous Materials	Safety Inspector Annual Evaluation
Maintenance	Annual Evaluation
Structural Adequacy	Condition assessment for the five-year plan update
Future Expandability (adaptability to change)	Included in the site plans developed for each school
Fire Safety	Safety Inspector Annual Evaluation
Other health/sanitation/safety issues	Safety Inspector Annual Evaluation

Source: MGT analysis, Brevard County School District.

3 In determining actual space needs, planners have considered alternatives to new construction.

In determining actual space needs, planners should consider alternatives to new construction such as year-round education, extended day schools, changes in grade level configuration, changes in attendance boundaries, and use of relocatable facilities to help smooth out the impact in peaks and valleys in future student enrollment. The district has utilized portable classrooms as an alternative to new construction and has examined other possibilities. However, the district could further and more rigorously examine

alternatives to new construction, including extended-day schedules, changes in attendance boundaries, year-round schools, and changes in grade level configurations⁶ in order to fully utilize existing facilities.

District Uses Portable Classrooms as its Primary Alternative to New Construction

The district has primarily utilized portable classrooms as an alternative to new construction. The district currently uses 463 portables. This represents 12 percent of the total student stations available in the district. The district has established a goal of reducing the number of portables. As noted in its Strategic Plan, the district wants to reduce the leased portable inventory by 50 percent. The current figure of 463 is down 19 percent from the 571 portables that were in use during the 1997-98 school year.

District Has Explored Year-Round Schools

The district currently has a year-round program in three of its schools. However, these schools are all single-track. This means that the schools are not serving any more students than they would if they were on a traditional schedule; thus, these three schools offer no benefits to the district in terms of avoiding new construction.

The district should give consideration to the use of multi-track year-round programs in its schools as a means of addressing student growth. Research in the field clearly reveals that school districts can save construction funds through multi-track year-round schooling. The research regarding the educational impact of year-round schooling reveals somewhat less clearly that it can have a positive impact on student achievement or at least no negative impact.

In the 1998-99 school year, more than two million students were educated in a year-round environment at nearly 3,000 schools across the country. Forty-one (41) states have at least one year-round school. Most of these schools (59%) provide only a single track year-round program. Thus, one of the driving factors for many of the districts that offer year-round schools is not the dollars savings associated with avoiding new construction, but a local preference for the year-round curriculum and schedule. This is currently the case in Brevard, where its year-round schools are only single track.

Nevertheless, a major reason the district should consider expanding the year-round concept to multi-track at multiple schools is the potential to avoid significant construction expenses. If the district can avoid building a new school, it avoids the costs associated with building design, engineering, construction, furnishing, as well as infrastructure. There are some transition costs associated with switching to year-round schools. These include feasibility studies, administrative planning time, and teacher in-service training. However, these transition costs are minimal compared to the cost of new construction.

In a typical multi-track school operating four tracks on a 45/15 schedule (students attend for 45 days, then have a vacation for 15 days, with one-fourth of all students on vacation at any one time), the school is in operation for 242 days each year, as opposed to the 180 days for a regular school. Thus, maintenance, repair, and utility expenses increase; secretaries, custodians, cafeteria workers, counselors, bus drivers, and other staff must be available for the full 12 months, with proportionate increases in salary. Some districts with multi-track year-round schools have found that they must hire assistant principals to handle an increased administrative work load. So at the per school level, operating a year-round school is more expensive than a traditional school. However, on a per-pupil basis, these costs are typically less. Two school districts in California, Oxnard and Pajaro Valley, have long-standing year-round programs. Oxnard

⁶ The district is currently changing grade level configurations to create middle schools and 9-12 high schools. However, this is not being done in order to more fully utilize existing facilities.

began year-round in 1976; Pajaro Valley in 1971. In separate studies, the Oxnard district found that its operating costs averaged 5.5 percent less per pupil in year-round schools over its traditional schools. The Pajaro Valley district found that its operating costs also decreased, although it did not document quantified results.⁷ While it may seem counterintuitive that a year-round school could be less costly to operate on a per-pupil basis than a traditional school, districts around the country have documented efficiencies through the more complete utilization of existing spaces, appropriate extension and shortening of teacher contracts, and incremental savings from employing a reduced number of support staff for the full year, as opposed to a greater number for a shorter year. In the category of energy costs, one district, Prince William County (VA), found that, on a per-pupil basis, these expenditures were the same for year-round and traditional schools.

In regards to the educational impact on students, the benefits of year-round are documented, although less clearly than the cost savings. A 1992 study found “no indication in available reports that achievement suffers in year-round schools.”⁸ A previous study, completed in 1983, seemed to indicate that California’s year-round schools performed consistently below traditional schools on statewide tests. However, later research indicates that this may have been due to the failure of teachers and administrators to effectively adapt to the changed schedule and to modify their curricula. A study of students in San Diego (CA) schools from 1982 to 1990 found significant differences in the percentage of year-round schools that maintained or improved student scores on the Comprehensive Test of Basic Skills (CTBS) compared to the results for traditional schools. For example, in the fifth grade, a much larger proportion of year-round schools maintained or improved CTBS reading scores than did the traditional schools, and the average improvement was significantly greater.⁹

To date, no national studies of the educational impact of year-round schools have been conducted and care must be taken when analyzing the results from individual school districts on the subject. While there appears to be a growing acceptance of the idea that year-round schooling is particularly effective for at-risk populations, such as migrant or limited English proficiency students, each district must ultimately determine whether year-round schooling would work in their particular environment. Exhibit 9-14 outlines the factors a district should consider when assessing the potential for year-round programs.

⁷ “Year-Round Education: A Strategy for Overcrowded Schools,” ERIC Clearinghouse on Urban Education, ED378267 94, Digest Number 103.

⁸ “Policy Considerations in Conversion to Year-Round Schools,” Glass, Gene V., Educational Resources Information Center.

⁹ “Year-Round Education: A Strategy for Overcrowded Schools,” ERIC Clearinghouse on Urban Education, ED378267 94, Digest Number 103.

Exhibit 9-14

Factors a District Should Consider in Assessing the Potential for Year-Round Schools

Not all schools within a district are the same. They serve different populations and one population may be more predisposed to success with the year-round scheduling option.

Off season vacations can be a problem with year-round schools. Student summer activities may be disrupted unless the district works with community resources to address the issue.

Without the summer break, teachers may not be able to continue their own education through college classes. As a result, the district may need to offer greater in-service opportunities.

Families and family traditions may be disrupted, especially in siblings are attending schools with different calendars.

Those who have implemented year-round programs report that community opposition is usually very strong at the outset. However, after initial implementation, parent satisfaction with year-round tends to rise.

Year-round administrators may be more susceptible to burnout than traditional ones. The administrative burden at a year-round school may require a greater number of administrators than at a traditional school.

Because breaks are more frequent, teachers may experience less burnout.

Students may retain more over shorter vacations; thus they may need less reviewing at the beginning of the school year.

A temporary increase in student enrollment is best handled by a potentially temporary means, such as year-round schooling, as opposed to a permanent means, such as new school construction.

Source: MGT.

Assuming the Brevard County School District offered multi-track year-round programs on an optional basis at 10 percent of the elementary schools, the district would increase its capacity by 985 student stations. At the Brevard County cost of \$7,616 per student stations the cost avoidance will total \$7,501,760. Since the literature indicates that operational costs are at least equal for a year-round school, on a per-pupil basis, the district would only have to consider the transition costs against the construction cost avoidance. Even assuming that transition costs for feasibility studies, administrative planning time, and teacher in-service training are extensive (as much as \$300,000 - 500,000 in one time costs), the district would still be able to save a significant amount of funds.

District Has Changed Grade Level Configurations

The district is currently in the last year of a move to all high schools comprising grades nine through 12. Next year, all high schools will have the four grades and all middle schools will include grades seven and eight. However, this move was not in response to facility needs, but rather to a desire to create true middle schools and to eliminate the varying grade configurations found previously throughout the district. The district has not fully explored the use of altered grade-level configurations as a means to achieve better utilization of existing space and potentially avoid the need for new school construction.

District Has Not Explored Extended-Day Schedules or Districtwide Redistricting

Two options that the district has not explored that could result in lessened need for new construction are extended-day schedules and comprehensive redistricting. Extended-day schedules increase the capacity of individual schools by lengthening the school day for the school facility, although not for the individual student. An extended-day school may have nine periods of instruction, with a group of students that attends school for periods one through six and another group that attends from three through nine. Implementing some form of extended-day schedules at schools experiencing substantial student enrollment could reduce the need for new school construction.

The district has also not fully explored the potential for comprehensive redistricting. The district has changed attendance boundaries when it has added new schools or has changed grade-level configurations. However, it has not explored the potential for redistricting as a tool for managing student growth. The current high schools in the district range in size from 579 to 2,074 students. It would be possible, through redistricting, to move high school students among the schools based on available capacity to alleviate pockets of overcrowding. In a less extreme example, many school districts achieve better utilization of existing capacity by altering attendance boundaries only slightly, albeit on a districtwide scale. This is typically achieved through use of computerized redistricting programs that account for the current capacity of every school facility by grade type, the current student enrollment by grade type, the projected growth in enrollment by grade type, and the physical geography of the district.

Recommendation

- *The Brevard County School District should consider alternatives to new construction and evaluate the advantages and disadvantages of each alternative, including the long- and short-term cost implications. Should the district decide to implement an alternative like year-round schooling, it could save a substantial amount of construction funds. As noted in the text, converting just 10 percent of its elementary schools to a year-round program would realize for the district a cost avoidance of \$7.5 million over five years. After one-time transition costs, the district could realize as much as annual \$1.5 million dollar saving as soon as 2001-2002.*

Are the Best Practices for Architectural Services for Facility Planning and Construction Being Observed?

Goal: The district secures appropriate architectural services to assist in facility planning and construction.

1 The district uses an architect selection committee to screen applicants and identify and evaluate finalists.

The district uses an architect selection committee to screen applicants and identify and evaluate finalists. The recent process for selection of architects in Brevard County is to examine completed facilities and select a firm to re-use the design.

The District Selects Architects Based on Selecting a Completed Project

Prior to the recent reorganization of the Facilities Department (specifically the elimination of the planning department) the district appointed a committee to prepare an educational specification and select an architect. The district then had the selected firm prepare a prototype design that was re-built several times. One design, referred to as the “wing type” elementary school, was built seven times. The records from this committee indicate the following representation on the selection committee:

- Facilities Department Staff
- Area Superintendent
- Instructional Staff
- Food Service Staff
- Maintenance Department Staff
- School Administrative Staff

Since the department’s reorganization in 1998, the district has continued to form selection committees but the focus has changed significantly. The committee (made up of individuals similar to the above list) has toured other completed schools around the state and has selected the prototype they wish to utilize in Brevard County. The criteria for selection have not been fully substantiated but interviews with committee members verify that the discussions have centered on the following areas:

- the ability of the design to meet the program needs in the district;
- the overall cost of the facility;
- the cooperation of the architect when working with district officials; and
- the ability to adapt the facility to sites in the district.

Once a specific design has been selected, the district has then negotiated with that architect to receive their services at a lower fee since they will be re-using most aspects of the completed plan.

The Selection Process Has Been Unique

Section 287.055, Florida Statutes, requires districts to use the following criteria in selecting consulting firms:

- the company’s history, structure, personnel, licenses, and experience;
- related projects similar in scope or amount completed by the company, including name of client or its representative;
- financial information such as balance sheet and statement of operations;
- project management, scheduling and cost control systems the company uses for similar projects;
- proposed minority business involvement in the project;
- cost control and value engineering techniques;
- description of litigation, major disputes, contract defaults and liens in the last five years;

- interview; and
- confirmation of references.

The statute also provides direction regarding the process for scoring proposals and making recommendations to the school board.

The statute allows for the selection process to be for a construction manager and/or for a design build contract where the district is hiring the construction manager (CM) rather than the architect. In this case, the district is required to have approved policies for the delegation of these responsibilities. In Brevard County, the situation is somewhat unique in that they are going through an architect selection process (albeit a process of selecting a building rather than an architect) and then going through the selection process to hire a Construction Manager.

The selection process for the appointment of construction managers has considered experience, adequacy, and availability of personnel for the project, proximity of their office to the district, thoroughness, adequacy of supervision, business procedures and record keeping on the job, financial responsibility, and suitability of their organization.

The selection process for architects has involved examples of their work, interviews with previous clients, and an examination of the construction documents. It has not necessarily, however, included personal interviews and/or visits to their offices.

After final selection and Board approval, architectural contracts have been negotiated based on the amount of change to the completed design that is expected. Fees have been for a total fixed amount rather than a percentage, which encourages the architect to provide the service without creating overbuilt or extravagant projects. For comparison purposes the fees have averaged approximately seven percent of the construction cost for complete designs and 3.5 percent for re-use of prototype designs. These amounts are well within expected ranges.

2 The district involves architects in all key phases of the planning process.

Once a design is selected, the architects are involved throughout the process and into the building commissioning.

The Brevard County School District Involves Architects in the Key Phases of Planning and Construction

Once the prototypical design is selected, the architect is involved throughout the process of adapting the design to meet the program needs of the district. The architect regularly meets with the project committee in order to:

- define the project goals and needs;
- establish what changes will be made in order to meet the specific requirements of the educational program;
- site adapt the facility;
- complete the life cycle cost analysis as the design is finalized; and

- participate throughout the process of design and construction.

Architects Will Need to be Identified Earlier During Renovations

While the district involves architects in the key phases in accordance with their prototypical school selection process, there will be a need to appoint architects sooner when the emphasis changes to renovations rather than new construction. It is therefore recommended that the district include in its selection process a requirement for architect selection prior to the development of program specifications for those projects.

Recommendation

- *The district should include in its selection process a requirement for architect selection prior to the development of program specifications for those projects.*

3 The architect selection committee does not review and evaluate the architect's performance at the completion of projects.

The district has developed an approach for the evaluation of both architects and construction managers (as appropriate to a particular project). The process for professional consultants/designers includes an evaluation of the following elements:

- Design phase including the provision of acceptable solutions to design issues, working openly with the project team and designed the project within budget.
- Bidding phase
- Construction administration phase
- Project closeout phase

The process for construction managers includes an evaluation of the following elements:

- Construction administration, including the submittal of applications for payments with all supporting documents in a timely manner, answering of all RFP's in a timely manner, and the provision for effectively documenting and managing of change orders.
- Construction activities
- Supplier/subcontractor management
- Project closeout

While the district has a methodology in place to evaluate architects these evaluations are not formalized and referred to the Board because of concerns regarding due process. In order to alleviate this concern, the district should include in its RFP process a provision that the selected firm will be formally evaluated at the end of the project and that the evaluation will be referred to the Board.

Recommendation

- *The district should formalize the architect evaluation process, include notification in the request for services that the evaluation will be conducted and refer the evaluation to the Board after discussing it with the architect.*
- *Action Plan 9-3 provides the steps necessary to implement this recommendation.*

Action Plan 9-3

Complete Formal Architect Evaluation

Recommendation	
Strategy	Complete Formal Architect Evaluations and Refer Findings to the Board
Action Needed	<p>Step 1: Notify Architects prior to appointment that they will be evaluated and the results will be referred to the Board.</p> <p>Step 2: Facility committee to conduct formal evaluations based on the existing district procedures and the extent to which the facility meets the intent of the educational specifications.</p> <p>Step 3: Refer findings to the Board and utilize in future appointments.</p>
Who Is Responsible	Assistant Superintendent.
Time Frame	All projects beginning in the 2000 –2001 year
Fiscal Impact	This recommendation can be completed with existing resources.

Are the Best Practices for Educational Specifications Being Observed?

Goal: The district develops educational specifications for each project to meet student education needs.

1 The district develops a general project description.

Educational Specifications in the Brevard County School District have been prepared through the following methods:

- **The development of a prototypical educational specification.** The specifications developed for Lewis Carroll Elementary School and later adapted for additional schools based on this prototype is an example of this method. These specifications were largely developed by an in-house committee that prepared the project goals and then worked with an architectural firm to develop plans based on those goals.

- **The development of a project specific educational specification.** The specifications developed for Old Central Jr. High Renovation is an example of this method. These specifications were largely developed by the selected architectural firm who worked with a district committee to develop the project goals.
- **The adaptation of educational specifications from selected designs that have been constructed in other districts.** The specifications developed for Bayside High School is an example of this method. Utilizing this method the district formed a committee to prepare the project goals who then looked at completed facilities in order to select a project that best met the needs in Brevard County. Selected projects are then adapted for use by the architectural firm selected. This firm continues to work with the district committee throughout the process.

By utilizing the above methodologies the district has developed educational specifications that include a general project description that contains:

- a brief statement as to why the facility is being built;
- where it will be located;
- the population of students it is intended to serve;
- its estimated cost;
- the method of financing;
- the estimated time schedule for planning and construction; and
- the estimated date of opening.

Educational Specifications Components are Based on a Variety of Sources

The project descriptions included as a part of the educational specifications are based on a variety of district sources including:

Stated Rationale: Included in the five-year plan, Board agendas for specific projects, and in project submittals to the department of education (i.e. the classroom's first funding proposal).

Narrative describing the district: Based on the narrative Included in the educational plant survey.

Historical description of the growth patterns: Based on data contained in the Student accommodation plan.

Determination of the size of the facility: Based on data contained in the educational plant survey and included in the contracts with construction managers.

Determination of the grade level to be served: Based on the student accommodation plan.

Map showing the proposed location and attendance boundaries: Included in the student accommodation plan and the boundary book but not within the description of specific projects.

Construction Budget: Included in the five-year plan and the board submittals.

Source of funding: Included in the five-year plan and the board submittals.

Planning and construction time line: The facility department keeps a master schedule for all projects and the timeline is included in the agreement with the construction manager.

Determination if the facility will serve all or part of the district on an open enrollment basis and/or be a magnet or special school: This aspect is not a part of the facility planning process. These determinations are made prior to the selection of prototype plans and are reflected in the student accommodation plan.

2 The district does not develop a complete set of educational specifications before the architect begins to design a facility.

The architects and the project committee discuss the program to be housed and base the needs on the educational specifications developed through the methodologies discussed above and on an identified facilities list. There is no assurance, however, that educational specifications will be completed for all facilities and that they will include all components necessary.

Educational Specifications Need to be Assured for All Projects

The district forms project committees to work with the selected architect to discuss the educational implications of the design, but since the reduction in planning staff, there is no process to insure the formal development of educational specifications. Even in the case of prototypical designs there needs to be a process to adapt the design for the specific program (i.e. special education, arts, vocational programs, etc.) The current project committees have regularly included the design professionals, facilities division representation, instructional staff (administrators and teachers), and non-certificated staff (custodial, food service) so this process could be enhanced in order to ensure that educational specifications are complete for each project.

These elements should be included in development of educational specifications for all projects:

- identification of the administrative leader prior to the development of the educational specifications whenever possible -- in cases where the specifications have to be developed before the principal can be identified it will be necessary to appoint an administrator currently serving in a like position to lead the process;
- a statement of goals and educational philosophy for both the district and the specific school being planned;
- school–community relationships including community expectations and coordination and cooperation with other public agencies;
- goals, objectives, and instructional strategies;
- curriculum, staffing, and instructional strategies;
- definition of program objectives, activities, teaching strategies, and instructional methods;
- design implications of advanced technology such as computers, integrated networks, and satellite transmissions and reception; and

- provision of flexibility to incorporate future teaching methods and management styles.

Recommendations

- *The district should appoint a facility planning specialist to assist the facilities department with the overall development of educational specifications. This position is not meant to replace the former planning department but rather to be a planning specialist within the current organizational structure.*
- *The district should develop guidelines for preparing educational specifications for each new school (or group of projects if a prototype) and major renovation. The guidelines should establish standards such as a minimum classroom size and minimum required core facilities, but still allow flexibility for educational program differences among different projects. These guidelines would then be used for the development of project-specific education specifications.*
- *The district should develop project specific educational specifications for each project or group of projects. The educational specifications need to be developed by committees that include administrative staff, instructional staff, non-certificated staff, community members and design professionals. The specifications should be project specific but be based on the guidelines (as discussed in recommendation 9-8 above). It is critical to point out that this recommendation is not intended to eliminate the practice of selecting prototype plans for use in the district. Rather, it is meant as providing a formal means of evaluating the prototypes based on the program needs.*
- *Action Plan 9-4 provides the steps needed to implement these recommendations.*

Action Plan 9-4

Develop Educational Specifications

Recommendation 1	
Strategy	Appoint a Facilities Planning Specialist.
Action Needed	<p>Step 1: Prepare a position description that includes the responsibilities of developing educational specifications for each project, serving as a facilities department representative with the facility committees, assisting with the capital outlay committee, and monitoring the development of the FISH data and educational plant survey.</p> <p>Step 2: Budget for the added position.</p> <p>Step 3: Advertise for and fill the position.</p>
Who Is Responsible	Assistant Superintendent.
Time Frame	<p>Plan for the added position – 1999 – 2000</p> <p>New position included in the budget – 2000 – 2001</p>
Fiscal Impact	The position can be added at an annual cost of \$50,000 for the salary, benefits and support costs.
Recommendation 2	
Strategy	Develop guidelines for the development of educational specifications.

Action Needed	Step 1: Develop guidelines regarding the general statements that are to be included in the educational specifications for each major project. These will provide guidance to educational specifications committees regarding the need for project rationale, historical perspectives, etc. They will also provide district standards regarding the size of instructional spaces, square footage costs, etc.
Who Is Responsible	Facilities Planning Specialist.
Time Frame	2000 – 2001
Fiscal Impact	This can be implemented with existing resources. The cost of the position is included in recommendation 1 above.

Recommendation 3

Strategy	Develop educational specifications for all major projects (or group of projects).
Action Needed	Step 1: Develop criteria for the development of project specific educational specifications that include: <ul style="list-style-type: none"> • number of students and staff to be housed; • description of the educational program to be housed; • description of the instructional methodologies to be implemented; • program groupings; • relationships among instructional areas; • spatial Requirements; • support facilities required; • environmental variables; • utility requirements; • storage requirements; • display requirements; • furniture and equipment required; and • summary of spatial requirements.
Who Is Responsible	Facilities Planning Specialist.
Time Frame	Fall 2000
Fiscal Impact	The facilities planning specialist (costs identified in recommendation 9-8 above) can guide the development of the project specific specifications. In some cases (i.e. new high schools, major renovations, etc.), an outside consultant may be necessary. In these cases, the cost of developing educational specifications will be approximately \$15,000 per major project.

3 Educational specifications include an educational program component but could be improved.

The educational specifications that have been completed have included an educational program component. This component includes the relationships among the curriculum, instructional methods, staffing, and support services. They have also included a statement of the school’s philosophy and program objectives.

The District Has Used Project Committees to Relate Philosophy and Program Objectives to the Architects

The district uses project committees to identify the specifics regarding the curriculum, instructional methods, staffing, and support services that will be required for each major project. The philosophy and program objectives are included in the Educational Plant Survey have provided the basis for discussions regarding each project.

The district has identified the instructional leader for new schools. In most cases, the principal has been identified a full year ahead of proposed completion date and in all cases at least six months ahead of schedule.

Recommendation

- *While the philosophy and program objectives have been included in completed specifications, it is critical that the following elements be included within the development of educational specifications for all projects (as discussed previously):*
 - *identification of the administrative leader prior to the development of the educational specifications whenever possible -- in cases where the specifications have to be developed before the principal can be identified it will be necessary to appoint an administrator currently serving in a like position to lead the process;*
 - *a statement of goals and educational philosophy for both the district and the specific school being planned;*
 - *school–community relationships including community expectations and coordination and cooperation with other public agencies;*
 - *goals, objectives, and instructional strategies;*
 - *curriculum, staffing, and instructional strategies;*
 - *definition of program objectives, activities, teaching strategies, and instructional methods;*
 - *design implications of advanced technology such as computers, integrated networks, and satellite transmissions and reception; and*
 - *provision of flexibility to incorporate future teaching methods and management styles.*

4 Educational specifications include a description of activity areas in sufficient detail that the architect will not have to guess at what will occur in each area.

Educational specifications that have been completed have included a description of activity areas that describe the type, number, size, function, special characteristics, and spatial relationships of instructional areas, administrative areas, and services areas. These spaces have been based on the detailed facilities list included in the educational plant survey and include sufficient detail so the architect does not have to guess at what will occur in each of these areas.

Discussions Are Held With the Architects Regarding Educational Specification Criteria

As with the other areas of educational specification development, the district has included many of the criteria in various planning documents. Exhibit 9-15 provides a comparison of the educational specification criteria and how the district is addressing the criteria. As shown in the exhibit, many of the items are currently being completed and/or discussed even if they are not included in the project specific educational specifications.

Exhibit 9-15

The District Uses Most of the Educational Specifications Criteria

Educational Specifications Criteria	Current Status
The number and size of areas required has been derived as the result of an analysis of current space requirements, master schedule, planned course offerings, staffing patterns, and planned student groupings.	The analysis of current space requirements is included in the student accommodation plan. The planned course offerings are discussed and, in the case of the new Bayside High School, were reported in a program comparison document. This data has also been included in the educational specifications.
The number of teachers, paraprofessionals, and administrative and classified personnel using specific areas has been identified.	The district has appointed a Principal for new school projects well in advance of the planned opening. It is the responsibility of the Principal to develop the staffing levels. It would be of assistance during this phase if the staffing levels were outlined in project specific educational specifications.
The spatial relationship of one activity to another has been described.	The relationships have been discussed during project committee meetings but the district primarily relies on the selection of prototype plans to determine the spatial relationships.
There is a description of space relationship requirements for the separation of large and small group areas and for convenient student and staff circulation.	Space relationships have been included in the educational specifications.
Instructional support and co-curricular facilities have been addressed.	The instructional support and co-curricular facilities have been discussed during project committee meetings and is included in the educational specifications.
Specific space for instructional support and pupil services programs, general support services, and special programs such as exceptional and vocational education have been identified and meet legal requirements.	Special program personnel are included on project committees and as prototypical plans are developed. Again, this data is included in both the facilities list and the educational specifications that have been developed.
Environmental variables such as acoustical needs, visual needs, thermal requirements, and special aesthetic concerns have been identified and described.	Environmental variables are discussed in detail regarding the selection of prototypical plans and are often included as a part of the adaption process.

Exhibit 9-15 (Continued)

The District Uses Most of the Educational Specifications Criteria

Educational Specifications Criteria	Current Status
All utility needs including water, sewer, drainage, electrical, gas, compressed air, telephone, fire alarm, conduit cable for advanced technology, and satellite dish, have been identified.	This is a critical part of the process of site adapting prototypical plans. Utility needs are then identified on the building specifications and in the educational specifications document.
An energy management system is provided.	Again, this is a critical part of the process for adapting prototypical plans for use in Brevard County.
Storage requirements for individual activity areas and teaching stations have been identified.	Storage requirements are discussed by project committees and are evaluated in the selection of prototypical plans. This could be better determined, however, if prototypical plans are evaluated based on identified educational specifications.
Extra storage space has been considered for year-round educational programs.	The district has not planned facilities specifically for year-round programs.
Display areas for chalkboards, tackboards, and display cases have been identified.	Display areas are discussed by project committees and are evaluated in the selection of prototypical plans. This could be better determined, however, if prototypical plans are evaluated based on identified educational specifications.
The number, kind, and size of furniture and equipment items have been identified for each activity area.	The budget for capital projects includes an amount for furniture and equipment but the decision making process (with the exception of built in equipment) takes place after the school is designed. Built in equipment is included in the district design specifications manual.
Emergency shelter accommodations have been included.	The district discusses the need for emergency shelter accommodations with county planning officials and have adapted schools for such use. The new Ralph M. Williams, Jr. Elementary School is an example of a new facility that has been designed for emergency shelter use.
Planned expansion strategy has been included.	The site planning for expansion (both in terms of permanent and portable buildings) is included on the site plans for all major projects.

Source: Brevard County School District documents and MGT analysis.

5 The district communicates general building considerations to the architect.

The district communicates general building considerations, including features of the facility and the school campus in general, to the architect through the project committee process.

The facility plans verify that the architect has drawn schematic layouts of buildings, parking, roads, etc. that ensure:

- the district has compared both the educational costs and the cost of construction, energy life cycle costing, and operation of the various designs that were considered;
- there is a description of how students, staff, and visitors will arrive at and depart from the school; parking requirements are defined; there are provisions for emergency vehicle and service access; there is a provision for access by disabled persons; and bus loading and unloading is separate from other vehicle traffic;
- circulation patterns, both within classrooms and between activity areas, are well planned;
- district security considerations have been incorporated into the design;
- potential community use of the building has been considered; and
- future expansion possibilities are included.

New schools have included public address systems, closed circuit television, telephone, computer networks and security systems. The educational specifications, however, have not always provided a complete description. Plans are submitted to the state department of education for verification that they meet Florida space requirements.

6 The district does not use the educational specifications as criteria for evaluating the architect's final product.

The district has not utilized the educational specifications as criteria for evaluation of the completed facility.

Educational Specifications Need to Be Used as Part of the Evaluation of the Design Solution

Educational specifications have not been utilized in the interpretation of the design solution or matched against the final design solution. Therefore, the district is not formally using the educational specifications to determine how the facility design can enhance the educational program offered and provide a means of improving the process for each subsequent project.

Recommendation

- *The district should use the educational specifications to evaluate the design solution. The final design should reflect the design implications of the proposed educational programs as defined in the educational specifications. The educational specifications should also be given to the value engineering teams as they conduct their evaluation.*
- *Action Plan 9-5 provides the steps necessary to implement this recommendation.*

Action Plan 9-5

Utilize Educational Specifications in the Evaluation of the Design Solution

Recommendation 1	
Strategy	At the value engineering phase, and at the completion of each project, evaluate the final design solution based on the program goals as defined in the educational specifications.
Action Needed	Step 1: A formal procedure should be developed to ensure that the educational program is included as a part of the value engineering review and that there is a complete post occupancy evaluation based on the ability of the design to meet the goals as specified in the educational specifications.
Who Is Responsible	Site administrators and Facilities Planning Specialist.
Time Frame	Process completed for all projects beginning in the 2000-2001 year
Fiscal Impact	This can be implemented with existing resources.

7 The school board-approved program requirements are communicated to the architect.

The school board-approved program requirements are communicated to the architect before final working drawings are initiated. This is done primarily through the following means:

- the provision of the educational plant survey to the selected architects;
- discussions among the project committee and the selected architects;
- the detailed facilities list that is provided to the selected architects; and
- the adaptation of prototypical designs for use that will meet the requirements of Brevard County programs.

Educational Specifications Have Included Program Goals and Objectives

In addition to the above methodologies of communicating the program goals and objectives, where educational specifications have been completed that have included the following processes that help to define the program goals:

- the educational specifications provide the planning team with an opportunity to reassess goals and objectives and to plan further programs and activities;
- the planning team has reassessed the educational program and identified future needs that will impact the design of the new facility; and
- the planning team has evaluated existing facilities in terms of educational adequacy in support of current and planned programs and activities.

There is evidence, from the general satisfaction with many of the new facilities, that program needs have been addressed through the project committee process. The extent to which they have been addressed, however, varies among the projects.

8 The board minimizes changes to facilities plans.

The board minimizes changes to facilities plans after final working drawings are initiated in order to minimize project costs. The use of prototypical plans and the change to a construction manager at risk construction process has essentially eliminated changes to facilities plans.

The Construction Manager is Responsible for Keeping Projects Within the Negotiated Maximum Price

The Construction Manager is responsible for keeping the project within the negotiated maximum price. Prior to changing to a guaranteed price process of construction management, the district took all change orders to the Board for approval. Since the change, the process is now to negotiate a guaranteed price that includes a contingency amount if changes need to occur. In reality, the contingency has been utilized minimally. For projects where the contingency has not been used, district staff notifies the board when the construction manager has returned the contingency. Staff typically recommends that the contingency be used at the new school for which the contingency was originally set aside. After the boards concurrence, staff usually uses the return contingency to supplement the new schools furnishings and fixtures budget.

Are the Best Practices for Architectural Planning and Financial Management Being Observed? _____

Goal: The district uses generally accepted architectural planning and financial management practices to complete projects on time and within budget.

1 The board primarily uses the construction management at risk process.

The board determines whether each new facility will be constructed using the traditional system of public works or by using some innovative system such as design-build or a construction manager. The board has examined the different types of construction methodologies, discussed the advantages and disadvantages, and has made the decision to primarily use the construction management at risk process.

The District Has Moved to a Construction Management at Risk Approach.

The district has placed extensive emphasis on selecting the type of construction system. The district has moved primarily to a construction management at risk process for most major projects and, in many cases, has bundled together smaller projects and acquired a construction manager to complete them all. The recent roofing projects where the district combined nine projects is a good example. In this case small projects (i.e.,

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Roy Allen Elementary which had a total budget of \$400,000) could be combined in a total package that would attract more qualified bidders).

The decision to move to construction management at risk came after extensive analysis including a two-day board workshop where the advantages and disadvantages of different types of construction alternatives were discussed. The discussion centered on three construction processes – traditional design-bid-build, design-build, and construction management. Exhibit 9-16 outlines each process and the differences between them.

From this discussion, the district made the determination to utilize the construction management at risk process to the degree practical. Exhibit 9-17 provides the overview of the process that is currently at use in Brevard County.

Exhibit 9-16

The District Explored Three Construction Processes Before Selecting the Construction Manager Process

Process	Analysis	Advantages	Disadvantages
<p><u>Traditional Design-Bid-Build</u></p>	<p>Utilizing this methodology, the owner retains an architect (through a qualification-based selection process) who designs the project based on the owners’ programmatic requirements (educational specifications). Upon approval of the owner, the architect prepares contract documents for bidding purposes, which consist of plans and specifications. The owner then directs the architect to put the project out for bid and a general contractor is selected based upon the lowest responsive bid.</p>	<p>The advantages to the traditional approach include:</p> <ul style="list-style-type: none"> • the total cost is secured within a competitive environment; • the total cost is known before construction commences; • the district has control over the process; and • it is perceived as “fair.” 	<p>Disadvantages include:</p> <ul style="list-style-type: none"> • it is a linear process so it is often difficult to proceed in a timely manner; • changes during construction are costly as they are not awarded in a competitive environment; and • often the lowest bid is not of the best quality.
<p><u>Design-Build</u></p>	<p>The design-build process offers a single source of responsibility for both design and construction phases. In most cases the owner will contract with a general contractor which subcontracts its architectural work to an independent architect. In some cases, however, the architect is an employee of the general contractor. The process involves the owner advertising for design-build teams to submit total cost bids to design and construct a building based on a program and criteria established by the owner. Design – build is most often used for simple uncomplicated projects that have pre-determined functional requirements or projects that are designed and constructed the same way many times.</p>	<p>The advantages of the design – build process include:</p> <ul style="list-style-type: none"> • a total all inclusive price can be generated very quickly; • the total cost is often lower than with other methods; • the project can be repeated easily; and • the schedule for completion is often much faster than with the traditional approach. 	<p>The disadvantages include:</p> <ul style="list-style-type: none"> • the district has little input into the design process; • it is difficult, in the public arena, to justify a selection based on other than the lowest cost; and • the long-term operational costs may not be a priority to the design – build contractor.

Exhibit 9-16 (Continued)

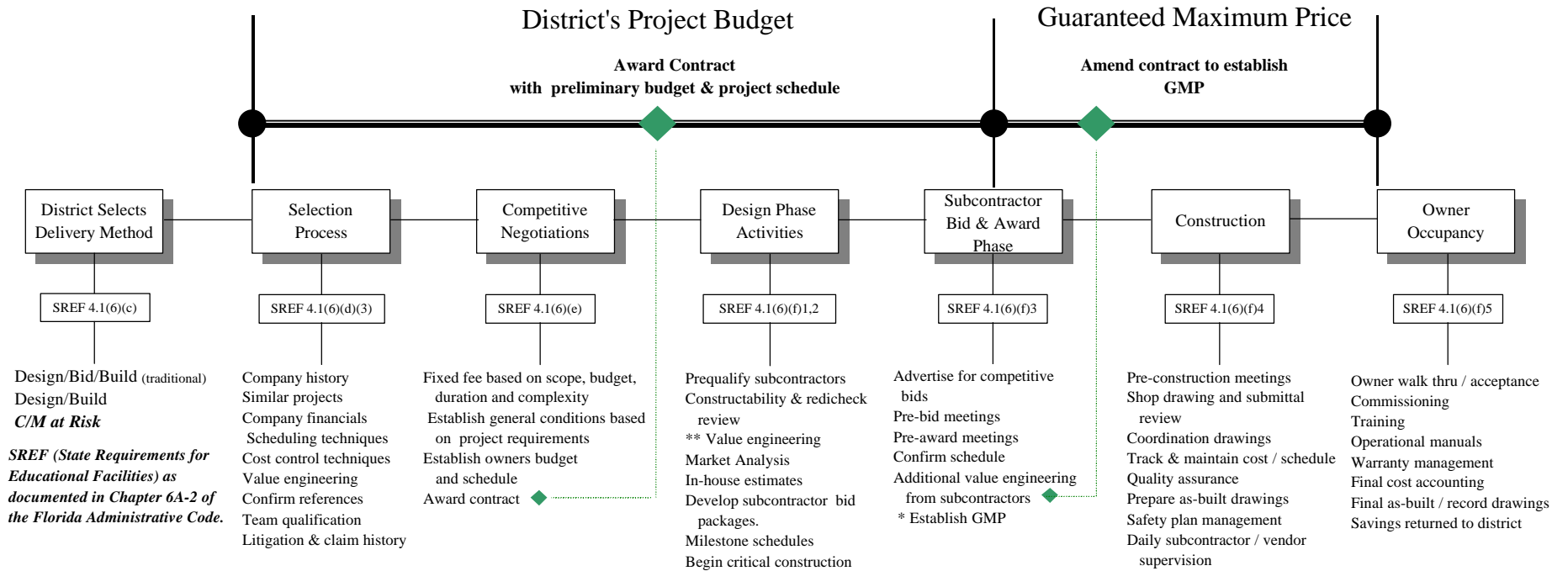
The District Explored Three Construction Processes Before Selecting the Construction Manager Process

Process	Analysis	Advantages	Disadvantages
<p><u>Construction Management</u></p>	<p>Construction management brings professional rather than entrepreneurial direction to the entire design and construction process. With the process the district hires a construction manager based on qualifications who then provides services before, during and after the actual construction process. After selection of the construction manager, he makes significant input relating to cost, quality and time to the architect during the design process. Competitive bidding is still employed for what are traditionally the subcontracts to the general contractor. Under typical construction management, these become prime contracts to the owner. The various contracts may be bid at once, but are often phased or bid at different times. This is particularly true when time is short and fast-track scheduling techniques are employed to complete the project. Certain contracts are then bid in advance of others, so that work can get underway on construction elements that must be completed first. This type of construction management is commonly referred to as agency construction management. Recently, many construction management contracts are “at risk” where the district negotiates a maximum price with the construction manager who contracts directly with the subcontractors.</p>	<p>The advantages of the construction management process include:</p> <ul style="list-style-type: none"> • bidding can be organized in packages that reflect the market conditions; • the district receives professional management of the schedule of construction; • the district is allowed input throughout the design phase; • the timing of projects can be fast-tracked; and • the costs are often lower than with a traditional approach. 	<p>The disadvantages include:</p> <ul style="list-style-type: none"> • the total cost is often not known before construction begins; and • the process is sometimes seen as favoring certain subcontractors over others.

Source: Brevard County School District.

Exhibit 9-17

The District's Construction Processes is Construction Management



The construction management firm takes the place of the contractor; holds each subcontract; manages and coordinates, as well as monitors the progress of construction. The contract for the construction manager "at risk" provides for a project with a "guaranteed maximum price" (GMP) pursuant to Section 235.211 F.S.

* Ideally, the GMP, is established , when the design is complete, the exact scope of the project is identified, and after subcontractor and vendor bids are received. The GMP can be established as early as the C/M award phase but the contingency, qualifications and assumptions will reflect the level of design and scope that is identified at the time the GMP is established.

** Value engineering, when performed properly, saves the owner money by using alternative methods, materials and / or systems while maintaining quality, maintainability, and the intent of the design and the function of the facility.

2 The architect prepares the building specification document.

Licensed architects and/or the district have prepared all appropriate building specification documents with the construction managers.

Specification Documents are Complete

A review of construction documents¹⁰ verifies completion of plans by licensed architects and that they include general conditions specifying the details of construction and materials. The project starting time, expected completion time, terms of payment bond, bid bond, and performance bond; workers' compensation and terms of liability insurance; subcontractors to be used; and provisions to be included in change orders are included in the district's contract with the construction manager. The district's legal counsel has reviewed the contracts in order to ensure the contracts and legal conditions comply with the requirements of law and rule.

3 The architect coordinate plans, specifications, and questions concerning the project.

The architect, in conjunction with the district and the construction manager, coordinates the plans and specifications and district personnel have the opportunity for review.

Coordination of Project Meetings Has Varied Among Different Positions

Plans and specifications have been coordinated by the architect who works with the Director of Project Management and the Project Manager. In addition, there is involvement of the Construction Manager where appropriate.

As the prototypical plans are adapted for use in the district, there is a review by the project committee members including district and site administrators, facilities department staff, and building inspectors.

4 After bids are opened and tabulated, they are submitted to the board for award of the contract.

Board approval has been secured for all contract awards. Legal counsel makes certain that bid and contract documents are properly prepared and that the award is properly authorized.

¹⁰ Construction documents are the plans used by the contractor to build a building. They are the third step in the development of a building design, after schematic design and design development (also called enhanced schematic).

Recommendations to the Board Have Been Reviewed by the District's Legal Counsel

Since the district has moved to a construction management at risk process, it does not receive bids for the majority of projects completed. Instead, a maximum price is negotiated with the selected construction manager.

Where bids have been received, however, (usually for smaller projects) the district has records of opening at the time advertised and has verified that bids included the following documents:

- a signed bid form with dollar amount;
- a bid bond;
- verification of sub-contractors;
- a non-collusion affidavit; and
- workers compensation and liability insurance certificates.

The bids are then tabulated, reviewed by legal counsel, and submitted to the board for approval.

5 The district requires the contractor to submit a signed owner-contractor agreement, workers' compensation insurance certificates, payment bond, performance bond, and guarantee of completion within the time required.

There are signed owner-contractor agreements and workers' compensation certificates and a guarantee of completion.

Appropriate Agreements and Certificates Have Been Obtained

A review of contract files for recently completed projects verify that appropriate agreements and certificates have been obtained. These have included:

- a signed owner-contractor agreement
- a workers compensation insurance certificate
- a payment bond
- a performance bond
- a guarantee of completion

In addition, the agreements are signed by the contractor and a district representative.

6 The architect recommends payment based on the percentage of work completed.

Payments are made based on the percentage of work completed with ten percent withheld from each payment until project completion.

Construction Projects Are Paid Based on the Percentage of Work Completed

Payment records reflect that the architect has recommended payment based on the percentage of work completed. The payment request is also approved by the Director of Project Management.

The process for payment approval in Brevard County includes the following steps:

1. The construction manager submits a payment request monthly to the architect.
2. The architect verifies completion and forwards the pay request to the District Director of Project Management.
3. The Director of Project Management discusses the level of completion with the project manager and inspectors and, if approved, forwards the pay request to the Assistant Superintendent.
4. The Assistant Superintendent forwards the pay request to the finance office for processing.

7 The district requires continuous inspection of all school construction projects.

District inspectors provide continuous inspections for each major construction project.

Regular Inspections Are Completed by District Inspectors

The district provides for and requires continuous inspection for the major construction projects, including renovations and alterations. The inspector reviews are documented daily in the “daily inspection report” that is submitted to the Director of Project Management. This report includes a review of the work progression, the inspections that occurred, and any inspection issues that need to be addressed.

8 The district ensures that buildings are not occupied prior to the notice of completion.

The Director of Project Management is responsible to ensure that a certificate of substantial completion is signed prior to occupancy.

Occupancy Permits Are Obtained

Based on a review of the occupancy permits and discussions with the school administrative staff, MGT determined that before buildings are occupied the district has received a final inspection report and a certificate of occupancy for the entire building or a portion when only that part is being occupied.

Are the Best Practices for Evaluating New Facilities Being Observed?

Goal: To maximize use of new facilities, minimize operation costs, and provide feedback for future construction planning, the district trains building users and evaluates building use.

1 The district has conducted comprehensive orientations to new facilities.

The district has conducted a comprehensive orientation to the new facility prior to its use so that users better understand the building design and function. The district process includes the following elements:

- A detailed orientation for maintenance personnel that involves the specifics of the mechanical systems is held with the architect, contractor(s) facilities department personnel, and the site administrator in attendance.
- A pre-occupancy orientation for instructional staff is conducted by the architect and site administrator.
- The orientation programs include clear and understandable users manuals for maintenance and operations staff.
- A pre-occupancy walk-through for students, parents and community is conducted by the site administrator(s).

2 The district does not conduct sufficient comprehensive building evaluations.

The district does not conduct a comprehensive building evaluation at the end of the first year of operation and periodically during the next three to five years to collect information about building operation and performance. The district conducts one year evaluations but there is no evidence of three- and five-year evaluations. Nor is there evidence that the educational program has been a part of the evaluation process or that the process has resulted in improvements to prototypical plans and/or changes to the educational specifications.

Post-Occupancy Building Evaluations Need to Be Conducted

While there is a one-year post occupancy evaluation, there is no record that the district periodically conducts evaluations of new facilities, follow-up utilization analysis, or an analysis of building operation and performance.

Recommendation

- *The district should develop and implement a post-occupancy evaluation of all major projects completed.*
- *Action Plan 9-6 provides the steps needed to implement this recommendation.*

Action Plan 9-6

Conducting Post-Occupancy Evaluations

Recommendation 1	
Strategy	Regularly conduct post-occupancy evaluations.
Action Needed	<p>Step 1: Develop procedure to ensure that post occupancy evaluations regularly occur and include educational adequacy, function, safety, efficiency, and suggestions for future improvements.</p> <p>Step 2: The evaluation should include:</p> <ul style="list-style-type: none"> • an analysis of the educational program improvements for consideration by future educational specification committees; • an operational cost analysis; • a comparison of the finished product with the educational and construction specifications; and • recommendations for future changes.
Who Is Responsible	Facility Planning Specialist, Site Administrators.
Time Frame	All new facilities beginning with the 2000-2001 year
Fiscal Impact	<p>This can be accomplished with current resources.</p> <p>The cost associated with the facility planning coordinator is provided for in action plan 9-4 above.</p>

3 The district does not analyze building evaluations to determine whether facilities are fully used, operating cost are minimized, and changes in the district’s construction planning process are needed.

The district does not conduct formal post occupancy evaluations. This lack of a post occupancy evaluation process does not allow the district to determine the changes to the construction planning process that are needed.

Post-Occupancy Evaluations Should Provide for Future Program Changes

The district has reviewed the completed facilities as plans are being made for new construction, but not in a documented manner. Therefore, through a team approach, the district has attempted to meet this best practice indicator. However, since no formal post-occupancy evaluations are held, the district cannot demonstrate that:

- the evaluation is used to assess facility use and operating costs;
- the results of the evaluation were used to compare the product with educational specifications to see whether the district received the product it said it wanted, and whether the district still needs the product it built;
- the results are used to provide the architect with corrective feedback to be used in the next building cycle; or that
- the evaluation is used to make changes, if necessary, to the district’s construction planning process for facilities to be built in the future.

Recommendations

- *The district should utilize the results of the post-occupancy evaluations to assess use and operating costs, provide feedback to the architect, and make changes in the construction planning process.*
- *The district should conduct a utilization analysis of all facilities to assist with the development of future long range plans.*
- *Action Plan 9-7 provides the steps necessary to implement these recommendations.*

Action Plan 9-7

Utilize Results of Post Occupancy Evaluations

Recommendation 1	
Strategy	Utilize results of the post occupancy evaluations to plan future facilities.
Action Needed	<p>Step 1: Develop procedure to ensure that post occupancy evaluations are utilized to evaluate costs, provide feedback to the architect and to make changes in the planning process.</p> <p>Step 2: The evaluation should include:</p> <ul style="list-style-type: none"> • an analysis of the educational program improvements for consideration by future educational specification committees; • an operational cost analysis; • a comparison of the finished product with the educational and construction specifications; and • recommendations for future changes.
Who Is Responsible	Facility Planning Specialist.
Time Frame	All new facilities beginning with the 2000-2001 year
Fiscal Impact	<p>This can be accomplished with current resources.</p> <p>The cost associated with the facility planning coordinator is provided for in action plan 9-4 above.</p>

Recommendation 2	
Strategy	Conduct Districtwide Utilization Review.
Action Needed	Step 1: Develop RFP for conduct of a districtwide utilization analysis. Step 2: Solicit response from qualified bidders. Step 3: Conduct utilization analysis. Step 4: Utilize results in future facility planning.
Who Is Responsible	Assistant Superintendent.
Time Frame	Analysis to be conducted during the 2000-2001 school year
Fiscal Impact	The cost of a utilization analysis will be approximately \$175,000.

4 The district analyzes maintenance and operations costs to identify improvements to the district’s construction planning process.

Maintenance and Operations Costs Are Included in the Post-Occupancy Evaluation

The district has established appropriate maintenance and operations standards in its short- and long-term plans for facilities. The district has a design manual and uses districtwide standards for equipment such as lights and locksets to minimize the maintenance and operations costs of new facilities. The cost savings that have resulted from the adoption of districtwide standards are reported in Chapter 10.0 of this report.

In addition, prototype designs have been used for recently constructed schools. This has allowed the district to examine the maintenance and operations costs for a completed school and make appropriate changes to subsequent prototypes. This has resulted in changes to each prototype, particularly in the area of mechanical systems. The district has utilized extensive reviews of energy costs in order to determine the best ways to meet the needs for future facility planning. The examination of these reviews have resulted in substantive changes to the prototype plans in the design of the mechanical systems.