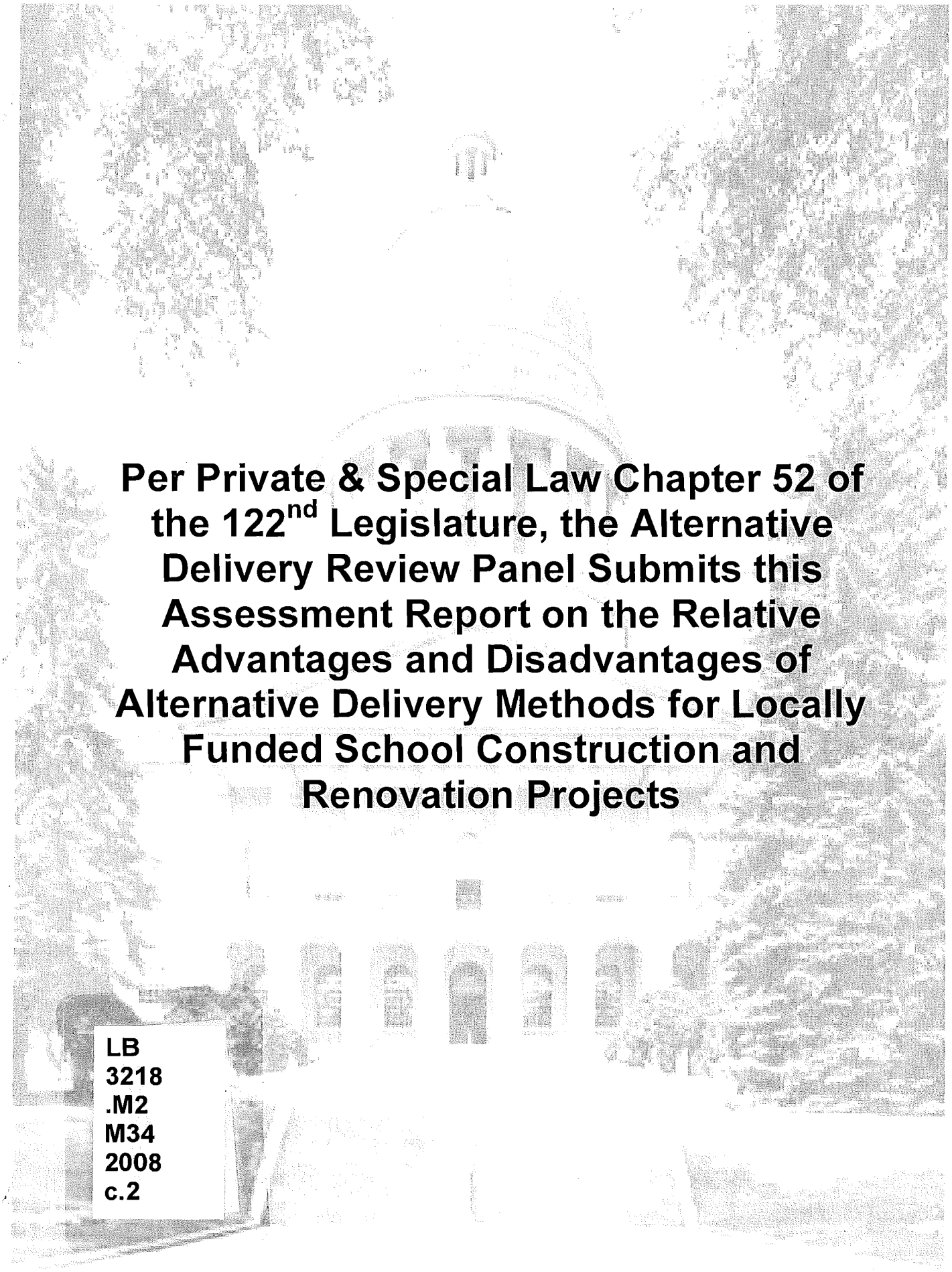

Per Private & Special Law Chapter 52 of the 122nd Legislature, the Alternative Delivery Review Panel Submits this Assessment Report on the Relative Advantages and Disadvantages of Alternative Delivery Methods for Locally Funded School Construction and Renovation Projects

Per Private & Special Law Chapter 52 of the 122nd Legislature, the Alternative Delivery Review Panel submits this assessment report on the relative advantages and disadvantages of alternative delivery methods for locally funded school construction and renovation projects.

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INTRODUCTION

Construction Project Process Overview
Design, Bid, Build

State funded school construction and renovation projects are done using the standard design, bid, build (DBB) approach, starting with the "design" component. The owner school district chooses an architect based on qualifications; the architect works with the owner through a new vs. renovation analysis, site selection, programming, concept design and budget, all leading up to a State Board of Education (SBE) approval and local referendum and for the project. If there is SBE approval and a successful referendum, the architect is authorized to proceed with design work and the development of construction documents.

In the "bid" part of the DBB approach, the owner, with the assistance of the architect, puts the project out for public bid to pre-qualified general contractors (GC). In preparing its bid for the job, the GC obtains bids from filed subcontractors for specified major trades and solicits quotes from subcontractors for other work. The general contractor is chosen based on the lowest valid bid submitted.

During the "build" phase of the DBB approach, when the GC and its subcontractors actually construct the building or undertake the renovations; the architect oversees and advises the owner about the construction proceedings, and the owner interacts with those two parties and approves requisitions for payment.

When a school project is put on the Department of Education's (DOE) Major Capital Approved Projects List, a project manager from the Planning, Design, & Construction Division of the Bureau of General Services (BGS) is assigned to assist the owner. The DOE School Facilities Team and BGS project manager hold a number of meetings with the owner and architect as the project proceeds through the reviews and approvals preceding actual construction. During construction, the BGS project manager remains closely involved with the project, attending monthly pay requisition meetings and site visits, and keeping DOE personnel apprised of the progress.

In comparison, state statute allows the use of alternative delivery approaches for construction and renovation projects. In these approaches, a construction specialist is procured much earlier in the process, and the procurement of that specialist is not based solely on a low bid. The current P&S Law allows up to 10 locally funded school projects to be approved by August 2009 to use an alternative delivery approach.

Please note that all five requests over the past 2 years from locally funded school projects to use an alternative delivery approach have been for the Construction Manager at Risk approach.

Construction Manager at Risk (an Alternative Delivery Approach)
This approach to construction and renovation projects brings a construction specialist, be it a dedicated construction manager or a general contractor acting as a construction manager, into the design process as early as possible. Currently, the Construction Manager at Risk (CMR) approach is only available to school districts that locally fund their projects.

Typically when using a CMR approach, the owner procures the services of the architect as described above. As with the DBB process, a BGS project manager is assigned to assist the owner.

Some school superintendents have had experience with CMR on previous projects, some hear about it from their colleagues, and some hear about it from their architect. Per Title 5, Sec. 1743, an owner that wants to use this approach applies to the Alternative Delivery Review Panel, which reviews the application, has a presentation by the owner and architect, and then makes a recommendation to the Director of the Bureau of General Services. If the Director approves the application, the owner may proceed with an alternative delivery approach.

At some point during design, the construction manager is procured - through a qualification and proposal process. The CMR then works with both the architect and the owner during the remainder of the design work and the development of the construction drawings and specifications, obtains the necessary subcontractors through a prequalification and public bid process, develops a Guaranteed Maximum Price for the project, and supervises the construction and/or renovation work. The BGS project manager is available to assist the owner throughout the life of the project, from reviewing design and construction drawings and specifications, to participating in the prequalification of subcontractors, to monthly pay requisition meetings and site visits.

Other Alternative Delivery Approaches
Two other alternative delivery approaches allowed under the statute and the P&S Law are Design-Build (D-B) and Construction Manager as Advisor (CMA).

Per statute, the Design-Build approach includes a "bridging" component developed by a criteria consultant, which the owner procures through a qualification process. The criteria consultant develops preliminary design and performance specifications for project based on detailed owner input. The owner procures the design-build team through a qualification and proposal process. Then the design-build team completes the design documents, acting as architect of record, and builds the project.

With the CMA approach, the owner procures the CMA through a qualification and proposal process. Per statute, the CMA then manages the schedule and budget for the project and may also act for the owner to procure and coordinate subcontractors to hold contracts directly with the owner.

Please note that D-B and CMA were not selected by any of the applicants under discussion.

State Funded and Locally Funded School Construction Projects

As a state funded project goes through Department of Education and State Board of Education review during design, the owner and architect must address a list of requirements that includes, but is not limited to, material quality, safety and security features, green and environmental materials and procedures, alternative energy systems, equipment to support the educational program, extent and quality of site development and features.

Currently, school projects that are locally funded are not required to adhere to the DOE and SBE review and approval process, regardless of whether they use the DBB approach or an alternative delivery approach. While we've observed that the locally funded projects incorporate many of the DOE requirements for state funded projects, there is no requirement that they do so.

ALTERNATIVE DELIVERY APPROACH IN LOCALLY FUNDED SCHOOL PROJECTS

At this time, only locally funded school construction and renovation projects are authorized to apply to use an alternative delivery approach, while the state funded projects use only the DBB approach. The disparity in the process and requirements makes it challenging to compare the results of using the two approaches, and it is unrealistic to compare those projects side-by-side.

From the time of adoption of the P&S Law in 2006 to December 2008, there have been five applications for locally funded school projects submitted to the Alternative Delivery Review Panel. They are listed here with their overall project costs:

- a new 22,000 SF K-12 North Haven Community School for SAD 7, $6.8 M;
- renovations and additions to SAD 51 Greely High School; 29,000 SF renovations, 30,000 SF additions; $13.8 M;
- renovations and additions to the Isleboro Central School; 21,575 SF renovations, 9,000 SF additions, $8 M;
- York High School 10,950 SF music space addition; $2.3 M; and
- Biddeford High School renovation and additions; 182,983 SF renovations, 32,717 SF additions; $38.8 M.

All five applications were for use of the Construction Manager at Risk (CMR) approach, and all five were recommended by the Review Panel and approved by the Director of the Bureau of General Services.

Procurement Process

In the DBB approach, up to four or five of the subtrades are required to be filed sub bids. This produces a cost advantage to the owner, apparent when the GC bids are opened and the range of the subbid costs are revealed.

The procurement of the qualified GC in the DBB approach is almost universally based on the low bid number.

In procuring a qualified CMR, the owner invites responses to a Request for Proposal (RFP) from 3-5 invited qualified applicants. This entails reviewing the applicants' written responses to the technical requirements of the RFP, interviews, and then review of the fee proposals. A member of the Assessment Team has expressed concern about the ability of the owner to "make an apples to apples comparison when procuring a construction manager," and considers this a drawback to the CMR approach.

With the CMR method, multiple subcontractors in each discipline are identified at an early stage, with the architect and CMR prequalifying each for capability, experience, and appropriateness for the particular project. Those trades are then bid competitively among the prequalified subcontractors and reviewed by all members of the project team. This approach provides a transparency to the procurement of subcontractors, as well as competitive pricing, which we

consider to be in the interest of the owner and the public. The owner also can expect the subcontractors to be well suited to the project work, based on the qualification exercise. An architect on one of the alternative delivery projects notes that by prequalifying subcontractors, the owner can better ensure that those chosen will have a realistic understanding of any unique aspects of the project.

For future projects using the CMR approach, the CMR needs to keep track of the subtrades that are qualified, including the number of applicants and cost figures given for each, and provide this information to BGS at the end of the project.

BGS needs to continue to work with the owners and architects to have the procurement of the CMR be understandable and even handed - in part, by improving the RFP application and evaluation criteria documents. BGS has committed to work with members of the Alternative Delivery Review Panel and other interested individuals to continue to explore ways to have the procurement process be consistent and fair.

Time Savings or Delays

One of the alternative delivery projects had two major phases - Phase I being an addition and Phase II being significant renovations, each with multiple subphases, and the two major phases needing to be accomplished sequentially due to programming and site issues.

The owner could have used DBB for this project, in one of three possible scenarios. One would be to have the architect complete the design for both phases before putting the work out for competitive bid. This would have delayed the start of construction on the addition until all design work was complete, potentially losing the majority of a construction season.

Another scenario would be to have the addition designed and put out to bid, then have the renovation work designed and award that work to the same GC. This would result in a multi-million dollar change order that was not competitively bid.

A third DBB scenario would be to competitively bid a second contract for Phase Two, potentially resulting in having a second prime contractor on the project. This result would increase the Owner's administrative oversight and costs, increase the opportunities for disagreements about responsibilities between the two contractors, and add time to the project schedule as the second contractor became familiar with the site and the work involved.

By having the CMR as the single prime contractor, the owner was able to have the project continue in a timely and seamless manner. Using the CMR delivery method, this could be achieved either with two contracts or an amendment to the initial contract for a second phase.

Another advantage of the CMR approach is that the early participation by the CMR during the design phase provides expertise helpful to the owner and architect in better predicting the project schedule. Examples of this range from capitalizing on the CMR's intimate knowledge of material supply timetables to the overall choreographing of sequential and concurrent construction phases, and the attendant shuffling and reshuffling of resources.

For future projects using an alternative delivery approach, the CMR, design/build company, or the construction manager advisor needs to keep track of the estimated and actual timeframes for its involvement on the project and provide this information to BGS at the end of the project. In order to have a better understanding if there actually are time savings, BGS also needs to have an independent GC provide an estimate of the time such a project would entail using DBB, and then compare the two.

Cost control

With a CMR on board during the design of the project, the Owner gains the benefit of suggestions from the CMR prior to construction. One advantage of this timing is that because a CMR can get cost information from suppliers more readily than an architect can, the CMR typically has a much better understanding of the cost implications of specific products than does the normal architect. The CMR's product suggestions can result in lower cost products of equal quality, or comparable products that are less complicated to install and thus result in lower costs from subcontractors.

In addition, a CMR can generate a detailed scope of work for each trade before it receives pricing. The detailed scope ensures that the subcontractors have accurate information about how the project will be sequenced, before they provide their pricing, thus increasing cooperation and reducing disputes and change orders during the project.

All of this information helps the CMR know and control project costs within the budget as it develops the Guaranteed Maximum Price (GMP) for the project prior to construction.

Upon selection and retention, the CMR becomes an integral part of a team (owner, architect, CMR), whose members have full knowledge of, and a commitment to building the best possible facility within the shared budgetary constraints. A proactive relationship should evolve, during which the owner and the architect are apprised from the outset, and at frequent intervals, of the status of the budget as the design documents become more fully developed and refined. This ongoing identification and addressing of cost issues prior to construction and the CMR's development of a Guaranteed Maximum Price are the backbone of the CMR approach cost control.

The CMR approach ensures that the owner does not find out after the project is fully designed that it is too expensive to build. When the competitive bids come in over the budget on a DBB project, the start of construction is typically delayed while the owner and architect search for ways to cut costs to meet the budget. The owner may choose to have the architect redesign and rebid the project. Or, the owner may have the low bidder and its subcontractors price the design changes needed to meet the budget.

The DBB approach procures the contractor after the design work is completed, which limits the opportunity for suggestions from the contractor as to possible alternative methods to achieve various parts of the construction.

On a DBB project, the general contractors and subcontractors only build what is shown on the plans and specifications, and the owner often pays for a change order when the design documents

are unclear or the existing conditions on a renovation project differ from what the architect believed them to be. On a CMR project, the CMR is able to write scope of work for the subcontractors to price that identifies potential "gray areas," and/or to include in the overall budget a contingency for anticipated problems.

For future projects using an alternative delivery approach, the CMR, design/build company, or the construction manager advisor needs to keep track of the estimated and actual costs during its involvement on the project and provide this information to BGS at the end of the project. In order to have a better understanding if there actually are cost savings, BGS also needs to have an independent GC provide an estimate of the costs such a project would entail using DBB, and then compare the two.

Technical Complexities

Technical complexity is encountered when the special circumstances of a given project call for complicated logistical solutions. In the case of island construction, which includes two of the CMR projects, an owner can retain a CMR that has an understanding of and experience with island construction and its attendant planning and management challenges. When a CMR joins the project team during design development for an island project, the CMR can advise and the owner can advance order materials, having them ready to ship when barge or ferry transportation is available.

Additional complex strategies are needed when dealing with island or remote construction sites. These include planning for the transport of both labor forces and materials to a remote location, and include, but are not limited to, a shorter working day, limited accommodations (food, lodging) for workers, increased vulnerability to weather, and limited interest by subcontractors, especially in a healthy construction economy.

Technical complexities are also prevalent when projects deal with the renovation or expansion of any existing building, especially historic buildings. For all such projects, there is a true advantage in having the CMR able to spend time doing site investigation of existing conditions during the pricing phase, and, in many cases with the prequalified trade contractors, to find potential issues that may not have been discovered. This helps the owner avoid most change orders for existing conditions and unknowns. This kind of in depth investigation is rarely undertaken by the architect on a DBB project, and cannot be done by the GC or subcontractor at a DBB pre bid walk through.

Historic building renovations and additions involve satisfying the requirements of one or more historic preservation agencies, in addition to the standard reviewing agencies, which impacts the project's programming, design, budget, and schedule. Having available the CMR's perspective, at least from the design stage forward, brings a level of expertise in phasing and attention to historic details that is not available to the Owner in the DBB approach. . This includes the CMR's ability to appropriately plan and make suggestions for attaching, working around, providing temporary protection or encapsulation of key historic elements.

Health & Safety
In projects undertaken with either the DBB or the CMR approach, the GCs and CMRs are attentive to the health and safety of personnel on and near the work site. They delineate work zones and establish and maintain clear access and emergency egress at the start of construction.

Other
All five of the alternative delivery projects have been locally funded. For one of those in particular that included a fundraising component, the owner found it advantageous to tie schedule thresholds to the fundraising effort. In this instance, the owner was able to establish a working arrangement with the architect and CMR that phased the various components of the process to the achievement of corresponding levels of fundraising. Trying to accommodate this using the DBB approach would result in a series of separate construction contracts or change orders similar to the scenario described previously under the Time Savings or Delays section.

Summary
The CMR delivery method holds special value to projects with unusual constraints, elements of project complexity, timing constraints, or those that require cost control measures prior to construction or may be dependent on private fundraising.

Equally important is the opportunity for the owner to select, via interview, all members of the team, and to secure the commitment of each team member to complete these challenging projects on budget, on schedule, and to levels of quality predetermined during the selection process. The owner's educated and valid comparison of the CMR applicants is an important component of that process.

We have obtained a commitment from BGS that, starting in 2009, it will conduct a thorough review of each alternative delivery project when it comes to an end and all the data is available. BGS will report to the Alternative Delivery Review Panel on data relative to square foot construction costs, both for new construction and for renovations, the procurement of subcontractors, time savings or delays, and cost control. Where appropriate, BGS will include comparisons of the alternative delivery project data with that from comparable DBB projects. We expect to obtain measurable criteria from this analysis, which we will be glad to report to the Committee.

We also request that BGS work with the Alternative Delivery Review Panel to standardize the major subtrades to be prequalified for CMR projects, and report the compliance with these standards to the Panel for these projects over the next 3 years.

Proposed Legislation

We respectfully propose that the Joint Standing Committee on Education and Cultural Affairs consider the following:

In order to allow locally funded school construction and renovation projects to utilize alternative delivery methods of construction, extend the current program for a minimum of 3 years, through July 2012, with no limits on the dollar amounts or the number of projects. Such projects should have approval for an alternative delivery approach from the Director of the Bureau of General Services by July 31, 2012.

PRIVATE & SPECIAL LAWS
Second Regular Session of the 122nd

CHAPTER 52
H.P. 1505 - L.D. 2113

An Act To Extend the Alternative Delivery Methods Pilot Program for Certain School Construction Projects

Be it enacted by the People of the State of Maine as follows:

Sec. 1. P&SL 1999, c. 79, §9, last ¶, as enacted by P&SL 2001, c. 54, §2, is amended to read:

The 22 projects described in this section must be scheduled for completion by 2005, the intent of this ~~law~~ section being the creation of a 5-year pilot or study program.

Sec. 2. P&SL 1999, c. 79, §9-A is enacted to read:

Sec. 9-A. Additional eligible projects. After May 1, 2006, no more than 10 projects may be approved under the provisions of this section. A school administrative unit seeking to use an alternative delivery method for a school construction project subject to approval under section 11 of this Act may employ any one of the following methods in undertaking a school construction project that is locally funded, has a minimum total project cost of $2,500,000 and has an executed contract between the school administrative unit and the project designer dated prior to August 1, 2009:

1. The construction-manager-advisor method;

2. The design-build method; and

3. The construction-manager-at-risk method.

Sec. 3. P&SL 1999, c. 79, §12, 2nd ¶, as enacted by P&SL 2001, c. 54, §3, is amended to read:

The Commissioner of Education and the Commissioner of Administrative and Financial Services shall establish an assessment team to assess the ~~5-year~~ pilot program established under this Act. The assessment team evaluation must be conducted as follows.

Sec. 4. P&SL 1999, c. 79, §12, sub-§3, first ¶, as enacted by P&SL 2001, c. 54, §3, is amended to read:

3. In analyzing the relative merits of the traditional method and the alternative methods employed for school construction under this ~~5-year~~ pilot program, the assessment team shall consider the following factors:

Sec. 5. P&SL 1999, c. 79, §12, sub-§5 is enacted to read:

5. The assessment team must be reconvened no later than July 1, 2008 and shall report the findings and recommendations from its assessment, including any recommended legislation, to the joint standing committee of the Legislature having jurisdiction over education and cultural affairs no later than December 12, 2008. The joint standing committee of the Legislature having jurisdiction over education and cultural affairs may report out a bill to the First Regular Session of the 124th Legislature to implement the recommendations of the assessment team.

Sec. 6. Retroactivity. This Act applies retroactively to May 1, 2006.

Effective August 23, 2006.

Office of the Revisor of Statutes
State House, Room 108
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Contact the Office of the Revisor of Statutes