As a Certified Construction Manager (CCM) I am all too aware of the challenges and difficulties encountered when a school district decides to consider new physical plant expansion projects in prelude to the bond process. In particular – the “D” Process for the proper steps for approval by the Office of Superintendent of Public Instruction (OSPI) that requires procedures that are outlined to be followed in the School Facilities Manual for the School Construction Assistance Program are demanding while being of great assistance. These mandatory guidelines need to be incorporated into the decision-making process made by the Walla Walla Public Schools – Facilities Task Force as they embark on the team assembly research and selection for task specific consultants to participate in the determination of the project delivery method selected and guidance in the steps for qualification and/or certification dependent on the system chosen by them.

I have participated with a few small – rural school districts as well as serving as a member of the Office of Superintendent of Public Instruction (OSPI) on SFAB (School Facilities Advisory Board) & TAC (Technical Advisory Board) committees for OSPI as a volunteer. I appreciate the importance of your individual and collective due diligence to research the best method of approach for future projects. Please review the School Facilities Manual and the guidelines provided for High Performance Schools as well as the Alternative Public Works Law as briefly outlined in those OSPI documents. In addition, I have been a major proponent as well as a support facilitator in a significant number of projects in the Southeastern Washington region that involved “Alternative Delivery Methods.” The role of the Construction Manager (primarily as an Owner – Agent) is an important and critical part of the formula when an Owner looks at the increased number of alternatives approved for their specific capital construction project application and to act as a objective resource in the information-gathering stage of that described development process phases to qualify to OSPI.

Your members are all well acquainted with the Design – Bid – Build that has been the most common method of delivery for Public Works projects. As you may know that the low bidder is not always the most qualified or most responsive bidder even though that is the intent. This process can create a potential tension due to the stipulated sum required that can lead to an adversarial relationship as well as often incorporating the least expensive components that meet the design intent. The cost per square foot for projects as decreased radically. Where allowed Owners may want to make an effort to pre-qualify contractors, through invitation or through an objective set of criteria considering construction experience, past performance on projects completed and relative financial strength. Doing this may provide the Owner with a reassurance that the contractor that is lowest apparent responsible bid is capable of performing and delivering a high-quality end product.
In any case, it would be advisable to specify in Contract Documents that you want as many of the proposed Subcontractors listed for approval in a General Contractor sealed bid with a provision that allows for disqualification on irregularities in listing of subs. This is an added measure of security for award.

The Alternative Delivery Methods that I will address in my presentation will focus on the most currently accepted forms which will still need to be qualified by the State of Washington – Contract Administration – Office of Superintendent of Public Instruction (OSPI) or the Engineering & Architectural Services (E&AS) – General Administration. These are General Contractor / Construction Manager and Design / Build – Alternate Delivery Methods with a few modifications for review.

The Owner may wish to utilize the construction manager at-risk (GC/CM) approach in order to incorporate a contractor’s perspective along with input and feedback on planning and design decisions.

GC / CM or General Contractor as Construction Manager, is an alternative project delivery method whereby the owner, design team and general contractor enter into a much more collaborative process than is usual under the Design-Bid-Build model typically utilized for public capital facility procurement in the State of Washington. GC/CM requires early involvement in the project design by the general contractor. The general contractor becomes an integral part of the owner/architect/engineer team and not just provided a set of documents from which to bid. The general contractor’s knowledge will keep the project design realistic and tracked though ongoing constructability review. This should keep the overall cost of the project down as the general contractor’s expertise is used during the design process to provide continuous value engineering and constructability review. This process allows increased familiarity with the design.

GC/CM Process Overview as Follows:

- The general contractor is hired through a RFQ (Request for Qualifications). This is done early in the design phase – ideally before any design begins.
- Selection of the GC/CM is based upon qualifications and a proposed fee to cover the cost of the general contractor pre-construction services.
- The general contractor is included in design meetings with the owner & architect. Throughout design development, the general contractor provides input into design, particularly in the areas of value engineering and price.
- Bidding proceeds when all agree that the scope and budget are acceptable.
- The general contractor seeks bids for all sub-contract construction work.
- The general contractor can bid to self-perform work up to a maximum 30% of MACC (Maximum Allowable Construction Cost).
- The general contractor is responsible for construction management.
- An “Incentive Clause” is often used to reward the general contractor for quality of construction, good budget management and on time completion.
Typically, projects must exceed $10 Million Dollars in value to qualify and the more difficult and complex the project – the more likely it is to be approved by the Projects Review Committee of the Capital Projects Advisory Review Board (CPARB) in Washington State. Projects that involve complex scheduling requirements and/or multiple phases or construction at an existing facility which must continue to operate during construction, or have other pertinent circumstances that increase the difficulty factor and level of complexity are top candidates. Projects taking place on restrictive sites, that involve challenging civil or structural issues, or those with restricted budgets would also benefit from having early involvement by the general contractor, and are therefore good candidates, as well for GC/CM process. This participation may allow the ability to “fast-track” early components of construction prior to full completion of design to lock-in material prices during periods of escalation which may be a factor.

The Design / Build procedure means a contract between a public body and the parties that form the Design / Build Team which is typically an Architectural & Engineering Firm and a General Contractor to both design and build the facility as stipulated in the contract and contract documents. In both cases, there is a qualification process by the Capital Projects Advisory Review Board (CPARB) to review and approve public works projects using the Design-Build and GC/CM Contract Procedures authorized in RCW 39.10 as per SHB 1506.

The Design-Build project delivery system – which was used on the Three Rivers Convention Center by the Kennewick Public Facilities District, has increased in popularity due to the single source responsible for development of the project. There are few examples of this process – which has been utilized by Private School Facilities (Eastside Catholic) & Capital Improvement projects managed by E & AS.

Design/Build is a process in which a public body contracts with another party to both design and build the proposed facility. D-B Overview as follows:

- Agency prepares or hires a consultant to prepare a detailed written description of the project.
- Agency advertises for statements of interests from firms that will both design and build the project.
- Interested firms, usually a collaboration of a contractor and an architect, submit information regarding their experience with design and construction on similar projects and credentials of staff assigned.
- Agency reviews submittals & selects 3 to 5 qualified firms as finalists.
- Finalists develop schematic designs and cost estimates for the project based on details in the “Request for Proposal” and submit them in sealed envelopes by a deadline. In most instances the finalists are paid a stipend or honorarium if they are not awarded the project.
- Design submittals are reviewed and scored by agency for technical and aesthetic merit before cost proposal envelopes are opened.
Cost proposals are opened, scored and combined with technical and aesthetic scores to determine the winning proposal. An independent jury is often used to make the final selection.

Winning firm proceeds with design development and construction documents with continuous review by agency to assure compliance with original Request for Proposal requirements and commitments.

Construction proceeds in accordance with RCW 39.10.300.

The Multiple-Prime Contracting is another alternative procurement system in which the Owner holds separate contracts with the contractors of various trades or disciplines, such as general construction, structural, mechanical and electrical. In this system, the Owner or its CM designated representative manages the overall schedule and budget during the entire construction phase. This system which many Owners have decided to use has gained favor as a part of another method of “fast-tracking” construction. Work in each construction discipline is bid separately, allowing the flexibility of awarding construction contracts on the first portions of the project as soon as the respective aspect is completed. This fast-track approach is a highly desirable feature of this method of procurement where time of performance is a critical element of the project. It allows the Owner to have more control over the project schedule – since the Owner sets the schedule for the bidding of the individual portions of the work. Another advantage of this system is that the Owner can realize savings in a tight budget project by directly procuring material items like HVAC mechanical equipment avoiding mark-up.

There are numerous advantages and disadvantages to each delivery method and I will attempt to provide an objective review of each method as described above:

Traditional Design-Bid-Build: This contracting system method offers the advantage of being widely understood and readily applicable with a role that is well established and relationships are clearly defined for the parties involved. It is the most common approach for Owners in Public Works projects required to be in compliance with State of Washington procurement statutes. Furthermore, it offers the Owner a significant amount of control over the end product. This is because the facility’s features and functions are fully determined and specified prior to selection of the contractor. Among the chief disadvantages of a traditional system:

- The process is time-consuming since all design work must be completed before solicitation of bids from general contractors prior to contract award.
- The designer may have limited ability to assess scheduling and cost ramifications as design develops which can lead to a more costly project.
- The Owner can be exposed to contractor claims and disputes over design and constructability issues and concerns since the Owner accepts liability for design in its contract with the general contractor.
- The traditional system method has tended to promote a more adversarial relationship due to the accepted low bid rather than cooperation and coordination among the contractor, designer and the Owner.
The contractor often pursues the least-cost approach to complete the project which requires greater oversight and quality review by the Owner.

The absence of contractor’s input into the project design may limit the effectiveness and constructability of the design. Important decisions that could impact the types of materials specified as well as the means and methods to install could be made without full construction perspective.

Design-Build: The design-build (D-B) project delivery system has grown across the nation in popularity and has been foreseen by select members of the construction industry as a perfect solution to address the limitations of other methods. For an Owner, the primary benefit remains the simplification of one party responsible for the entire development of the project. While some of the other traditional systems can give rise to disputes among the various project participants with the Owner acting as a referee or defending its position as to blame for unforeseen issues or unexpected concerns. In the Design –Build process many of these problems become internal D-B Team issues which do not affect the Owner. Under this system as explained above the Owner contracts with the D-B Team which is often a joint venture partnership between a general contractor and architect/engineer design team. Since General Contractor’s are comfortable in the role of risking capital in performing projects, they usually take a lead role in this D-B Team. The D-B Team provided the complete design of the proposed facility based on a preliminary scope or work or schematic design presented by Owner. The D-B Team negotiates a fixed fee or lump sum price to complete the design and construction of the facility. Once approved, the D-B Team is then responsible for construction of the project including all coordination between design and construction. Since the construction team is participating with the design team from the outset, D-B does offer the opportunity to save time and money. These primary advantages can be offset by a significant loss of control by the Owner.

The primary stakeholders may consider there to be a reduction to input and feedback once the basic design premise is approved by Owner for D-B Team.

The Owner may find it difficult to determine and verify it is receiving the best value for its money without a great deal of confidence in the D-B Team.

The primary caution for an Owner considering D-B for a project is to look at the level of involvement required to produce a successful project design.

The Owner needs to recognize the effort and completeness behind its initial scope or preliminary design in the Request for Proposal which will form the basis of its contract agreement with the design-builder.

The Owner may need additional consultants to assist in the development of its scope of work or preliminary design in the form of architect or designer.

Owners with a highly specialized program or special needs or desires may not find it advantageous to turn the project responsibility over to an outside team without adequate level of oversight – design review & communication.

Where high-technology or specialized equipment is involved the key design decisions must be coordinated with the direct involvement of the Owner to avoid costly changes to avoid unsatisfactory environment or components.
This lesson as illustrated might be used to determine that Design-Build is best suited to conventional projects where project requirements can be clearly defined. Another consideration is for the Owner to select a D-B Team that has the proper balance of design expertise, construction experience, financial capability and a successful background in D-B Team track record. More so than any other delivery system, the success of a D-B project may hinge on the initial selection process.

**General Contractor / Construction Manager:** This system is similar in many ways to the traditional Design-Bid-Build system in that the CM acts as the general contractor during construction. That is the “At-Risk” Construction Manager (CM) holds the risk of subletting the construction work to trade subcontractors and purchasing materials from suppliers while guaranteeing completion of the project for a fixed fee and negotiated price following completion of the design. However, in this scenario the CM also provided advisory professional management assistance to the Owner prior to construction. In this process the CM offers budget, schedule and constructability advice during the project planning phase. Thus, instead of a traditional general contractor, the Owner deals with a hybrid construction manager / general contractor. In addition to providing the Owner with the benefit of pre-construction services which may result in advantageous revisions to the project, the CM-At-Risk scenario offers the opportunity to begin construction prior to completion of design. The CM can bid and subcontract portions of the work at any time, often while design of unrelated portions are still incomplete. In this circumstance, the CM and Owner negotiate a guaranteed maximum price (GMP) based on a partially completed design, which includes the CM’s estimate of the cost for the remaining design features. Furthermore, the CM may allow performance specifications or reduced specifications to be used, since the CM’s input can lead to early agreement on preferred materials or equipment.

The primary disadvantages cited in GC/CM involve the contractual relationship among the designer, Owner and the Construction Manager once the construction process starts. Once the project is underway, the CM converts from a professional advisory role of the construction manager to the contractual role of the general contractor. The critical elements that occur at this transition follow:

- The tensions over construction quality – the completeness of design and potential impacts to schedule and budget can arise.
- Interests and stake holding present in traditional design-bid-build can create adversarial relationships as result of this phase transition.
- While the fixed GMP is supposed to address the remainder of unfinished aspects of the design, this can in fact increase disputes over assumptions of the design intent and features or functions that could have been anticipated at the time of the negotiated bid.

One mitigating approach to this problem is for the CM to share with the Owner its entire subcontractor bids as well as its estimates for self-
performed scope of work to ensure openness in the process. The CM may further assume risk by taking some responsibility for design errors discovered during construction, if it was involved in the review of the design prior to establishing the GMP. In addition, arrangements can be made regarding risk sharing in the face of cost over-runs, contingency application and profit sharing in the event of under-runs in the agreed upon GMP. This is a critical aspect of the final review process and needs to be addressed prior to finalizing the negotiations on the contract draft with GC/CM.

The Multiple Prime contracting method can be applied in the more traditional setting of the Design-Bid-Build – however – there are some potential disadvantages the primary one being there have been past cases where the method did not work as well due to the absence of overall authority which created a lack of coordination once the project is underway. While the general contractor as the central prime contractor is often given the responsibility to coordinate the work among the trades the complaint is that the contractor lacks contractual authority to control the schedule of another contractor. There is a way to mitigate that issue which is the employment of a Construction Manager acting in an Agent role for the Owner. This method known as Agency CM may alleviate coordination problems and the resultant possible contractor delay issues and concerns. The situation can be complicated in the efforts to keep all independent members of the construction team connected and communicative to avoid disputes and claims relative to construction delays due to a prime contractor not maintain adherence to the schedule.

In conclusion, about Alternate Delivery Systems – the Agency Construction Management Services (ACM) or Owner Construction Manager (OCM) deserves to be mentioned as an option in almost all forms of traditional or non-traditional construction project delivery systems. The Agency Construction Management of construction-management-for-fee encompasses a range of services provided by a CM on behalf of the Owner. It is a common misconception that CM-for-fee represents a distinct project delivery system. As stated this set of professional services are applicable to any delivery system. These services can be used by the Owner as necessary to extend or supplement the Owner’s own expertise, its own staff and to manage the construction process to help address and alleviate some of the listed shortfalls of a specific project delivery system chosen. A CM working as an agent to the owner primarily provides the benefit of an independent, professional service on the Owner’s behalf throughout the project. In contrast to some other project participants, the ACM has no vested financial interest in the project – either its design or construction – and maintains a responsibility to act on the Owner’s behalf and provide impartial advice concerning the construction project. As such, ACM firms should be selected based on qualifications and not on a cost or low-bid basis.
The selection process for an Alternate Delivery System needs to be supported by school district expertise in contract administration with an emphasis on the objectives of choosing one of these options whether it is budget – schedule or the complexities of a specific project. The details of the specific drivers that might feature one method or system over another will come from research and investigation with contacts to other school districts as well as school designers to get their input and feedback from their experience with these tools available for delivery of a construction project. Thanks for your time – patience and understanding of these first steps to acquiring knowledge of these emerging methods for your review.

The Owner has a number of areas of responsibility dealing with issues and concerns that need to be identified as priorities as well as developing strategies to deal with them before embarking on a construction program. These specific key elements need to be reviewed and highlighted for the task force to consider carefully as you deliberate on a Delivery Method.

- **Budget** – The budget needs to be realistic and within the allowable tolerances for OSPI State Funds as well as Local Bond Issues. The budget will be required to secure financing as well as to evaluate the project feasibility and act as a critical factor in design solutions as well as site locations. Once the project has been funded based on the budget – the Owner requires that the project be completed at or near the established budget figure without excessive cost over-runs.

- **Design** – The design is critical to the Owner’s perception of the intended function of the facility. The design program needs to successfully translate the needs of the end user. Therefore, the Owner should select a design team that is well qualified in the type of facility being designed. The Owner needs to facilitate and ensure that the programs functioning within the project are conveyed to Design Team. The documents produced through the design development process should incorporate unique feature of the site as well as address specific requirements of the property as well as adjacencies.

- **Schedule** – The schedule for start and completion dates can be crucial in terms of funds acquisition and disbursement. The date of completion can be important due to the Owner needing space by a particular deadline such as Fall school start. Therefore, a realistic assessment of the project duration – schedule and sequence of events should be performed early in the planning process. The schedule should be monitored throughout the design and the construction process for adherence to those objectives and goal.

- **Risk Assessment** – The development of a facility may involve risks. In the construction process, the issues of risk are significantly tied to
budget issues and timeline concerns. The Owner requires a realistic comprehension of the inherent risks involved in construction, and should make a conscientious effort to allocate or distribute this risk among project participants. The understanding of areas or potential exposure and liability cannot be minimized. In the consideration of risk allocation – the Owner should strive to assign risks to those parties that exercise control over those specific aspects.

- Owner’s Level of Expertise – The Owner’s expertise and familiarity with the building process and level of in-house management as well as resources will have a large influence over the amount of outside assistance required during the process. This may be strongly considered and guide the Owner in determination of the appropriate delivery system as well. This needs to be an objective review of the Owner’s team members and stakeholders versed in construction.