MEMORANDUM

May 23, 2019

TO: MEMBERS, PORT COMMISSION
Hon. Kimberly Brandon, President
Hon. Willie Adams, Vice President
Hon. Gail Gilman
Hon. Victor Makras
Hon. Doreen Woo Ho

FROM: Elaine Forbes
Executive Director

SUBJECT: Informational presentation of alternative construction project delivery methods for engineering construction projects

DIRECTOR'S RECOMMENDATION: Information only; No Action Required

EXECUTIVE SUMMARY

This staff report discusses the alternative project delivery methods for public works construction contracts available to the Port. Staff are presenting an overview of these alternative project delivery methods now because given the recent increase in capital projects and desire to maximize our positive impact on local communities, staff are exploring alternative project delivery methods. We are exploring these alternative project delivery methods in order to maximize opportunities for the contracting community and increase diversity of participation; better align cost estimates with bids received; and improve project schedule adherence.

There is no single project delivery method that is superior to all others. The project delivery method should be chosen based on factors specific to a project. Alternative project delivery methods transfer varying amounts of risk and responsibilities to the Contractor and can allow for expedited delivery and reduced or more certain costs.

This staff report describes project delivery methods, how they have been used by the Port and other City agencies, and their advantages and disadvantages. Table 1 presents a summary of the project delivery methods available to the Port.

Table 1: Project Delivery Methods

Design-Bid-Build (DBB) **"Low Bid" or "Best Value"**	This is currently the most common project delivery method used by the Port and many other City agencies. Through this method, the project is designed by Port staff or consultants and when design is completed, it is publicly advertised for contractor bids. A DBB contract can either be awarded on a "low bid" or "best value" basis.
Design-Build (DB)	This method has been used by Water Emergency Transportation Agency (WETA), San Francisco International Airport (SFO), and the Port in partnership with City Public Works for Port projects. For Design-Build projects, the Owner develops the conceptual plan for a project and then solicits bids from joint ventures of architects/engineers and contractors to perform both the design and construction. DB contracts are awarded either a) competitively to a pre-qualified proposer, b) qualifications based on a fixed budget, or c) on a "best value" basis.
Construction Manager/General Contractor (CM/GC)	This delivery method has been used by WETA, SFO, and the Port for the Pier 27 Cruise Ship Terminal. It is an integrated project delivery method that encourages collaboration and innovation within the project team. It is similar to DBB in that the Owner retains an Architect/Engineer with separate responsibility for design. However, with CM/GC projects, a contractor is retained during the design process to review and provide comments on the constructability and cost effectiveness of the design.

PORT STRATEGIC PLAN

The use of alternative project delivery methods is consistent with the Port's stated equity goal to grow the number of local businesses competing for Port contracts by engaging teams that support the diversity of our City. Through alternative delivery methods the Port has more ways to continue to exceed the Mayor's 40% LBE aspirational goal on contracts and micro LBE set-aside goals. For large projects delivered through Design-Build and Construction Manager/General Contractor methods, the trades are separately advertised and require specific LBE goals.

INTRODUCTION

This staff report provides an overview of the alternative project delivery methods available to the Port for construction projects valued at over $600,000[1]. All methods

[1] Federally and grant-funded projects will have different restrictions that could impact the choice of delivery method. This report does not address the effect of fund source on project delivery method.

discussed in this report are available to the Port by Chapter 6 of the City Administration Code. While all the methods are permitted, each project will require assessment of multiple factors and criteria to determine which delivery method is most appropriate for a particular project. The alternative project delivery methods can provide advantages in terms of transferring risk to the private sector, minimizing change orders and resulting cost and schedule implications, and maximizing local contractor participation.

Information in this staff report draws from the Alternative Project Delivery Method Report prepared for the Port by the CH2M/Arcadis Team for the Seawall Earthquake Safety and Disaster Prevention Program as well as the author's conversations with staff from San Francisco Public Utilities Commission (SFPUC), San Francisco International Airport (SFO), the Water Emergency Transportation Agency (WETA), and the Port.

OVERVIEW OF PROJECT DELIVERY METHODS

Design-Bid-Build (DBB)

This is currently the most common project delivery method used by the Port and many other City agencies. Through this method, the project is designed by Port staff or consultants and when design is completed, it is publicly advertised for contractor bids. A DBB contract can either be awarded on a "low bid" or "best value" basis.

With DBB there is no early contractor involvement (i.e., no contractor input for the project design). Therefore, DBB is best used on projects that do not require unusual or creative construction methods or would not benefit from a coordinated design and construction process.

DBB – Low Bid

Generally speaking, under Chapter 6 of the City Administrative Code, contracts with an estimated cost exceeding the threshold amount of $600,000 and under $1,500,000[2] must be competitively awarded to the lowest bidder. The advertised bid package will include certain qualification requirements and if the low-bidder meets qualifications, the low-bidder is selected. The Port currently uses the DBB low bid method to award most contracts.

DBB – Best Value

Best Value contracting can be used for contracts with an estimated cost of $1,500,000 or more. The advertised bid package can include a prequalification questionnaire that contains a section of questions that is scored. Alternatively, there can be a prequalification process before soliciting bids and only firms who pre-qualify are invited to bid. Prequalification questions can relate to questions regarding safety record, past performance, labor compliance, management competence, financial conditions, relevant experience, and LBE outreach or mentoring.

[2] City Admin Code, Ch. 6, §6.20 and 6.74

To determine the winning bidder, the total bid price is divided by the Qualification Point score (QP), and the contractor with the lowest resulting number will objectively be considered to represent the “best value.” The Port is using “best value” methodology for the Crane Cove Park Building 49 project and bids will be opened on May 28, 2019. The Qualification Point (QP) score for Crane Cove Park Building 49 is comprised of the point breakdown shown in Table 2.

Table 2: Best Value Scoring Criteria for Crane Cove Park Building 49

Relevant Project Experience	62.5% of QP score
Safety	25% of QP score
Contracting Community Development	12.5% of QP score

Table 3 lists advantages and disadvantages of the DBB method.

Table 3: Advantages and Disadvantages of Design-Bid-Build

Advantages	**Disadvantages**
Familiar process in the industry	More constructability issues because the contractor is isolated from design process
Shorter and less intensive procurement process	Often results in higher cost due to change orders and delays
Can allow for more innovative designs and Owner has more control in selecting designer	Construction cost of project are not known until design is 100% complete and bids are received
More checks and balances built into the process because the designer and contractor are separate	Often results in delays due to change orders
Owner has most control over design	
Potential low costs because of competitive bidding	

Design-Build (DB)[3]

For Design-Build projects, the City Administrative Code allows three variations: a) Design-Build with Competitive Low-Bidding; b) Design-Build with Request for Proposals (RFP) for Fixed Budget Projects; and c) Design-Build with Best Value Procurement. Under any of these alternatives, the Port may develop the conceptual plan for a project and then solicits bids from joint ventures of architects/engineers and contractors to perform both the design and construction. DB is most appropriate when the Port has a clearly defined scope and criteria documents, and is willing to trade design input for risk transfer and a shorter overall project schedule. DB is recommended for bigger projects (i.e., $5 million minimum) because it is worthwhile to have longer contractor procurement process.

Design-Build with Competitive Low Bidding: For these DB contracts, the Port must pre-qualify Design-Builders, or a combination of the Design-Builder and one or more of their subcontractors, prior to issuing an invitation to submit bids or proposals from the pre-qualified firms. The evaluation criteria "shall be based on qualifications and experience relevant to the services needed for the project…and criteria the Department Head may deem appropriate.[4]" Only the respondents found to be qualified may submit bids and the bidding may be restricted to no fewer than three pre-qualified Design-Builders. The contract is then awarded to the Responsible Bidder submitting the lowest Responsive bid.

Design-Build with RFP for Fixed Budget Projects: The Port can issue a Request for Proposals stating a fixed budget and invited pre-qualified Design-Builders to submit proposals. These proposals would be evaluated based on "stated objective criteria, which may include qualifications, experience, design proposals, cost and the value of [and] proposed enhancements." The cost criterion must account for at least 40% of the overall evaluation. The contract would be awarded to the highest-ranked proposer.

Design-Build with Best Value: The Port may issue a combined request for qualifications and proposals which will be evaluated and ranked based on qualifications, stated subjective criteria, and costs. The cost criterion must account for at least 40% of the overall evaluation. The contract would be awarded to the highest-ranked proposer.

The selected Design-Builder may procure trade work through competitive bids from pre-qualified firms. The trade packages must be awarded to the Responsible Bidder submitting the lowest Responsive Bid. For Core Trade Subcontractors performing design, preconstruction, or design-assist services, work may be awarded based on qualifications only. The Port must validate all cost proposals by an independent cost estimate prior to the Design-Builder subcontracting the work. The Port may also specify in the DB request for proposals that the Design-Builder self-perform one or more scopes of work. The Port may also authorize the Design-Builder to negotiate subcontracts for trade work up to 7.5% of the total estimated construction subcontract costs.

[3] City Admin Code, Ch. 6 § 6.61

[4] City Admin Code, Ch. 6 § 6.61

The Contract Monitoring Division (CMD) establishes an overall LBE goal for a DB project as well as specific LBE goals for each trade package. There is more CMD involvement and oversight related to LBE goals for a DB and construction manager/general contractor project than for Design-Bid-Build.

The Port used this project delivery method for the Illinois Street Intermodal Bridge Design Project. Public Works used DB to deliver the Fire Boat Station 35 project on Port property. SFO has frequently and successfully used DB. SFO is using DB to deliver most of SFO's $7 billion capital plan. SFO uses DB for projects requiring more specialized design than their in-house designers can do, and for these projects SFO prefers to transfer risk to the builder to hire the designer. WETA has also used DB for project delivery for projects ranging in value from $9 million to $80 million. These project include Central Bay Operations and Maintenance facility, Richmond Ferry Terminal, and South San Francisco Ferry Terminal (2 packages each around $9M).

Table 2: Advantages and Disadvantages of Design-Build

Advantages	**Disadvantages**
Because the contractor is also responsible for design, it usually is more cost effective and has improved constructability	More intensive and longer contractor procurement process (3-6 months)
Cost of project is known earlier in the process through a Guaranteed Maximum Price (GMP) or lump sum bid amount	Needs to be a project with a clearly defined scope and requirements; there is higher risk of missing items in the scope of work since it is all developed at the very beginning of the project
Schedule is faster because: • Schedule risk is transferred to DB contractor team • It removes the components of the schedule that would typically be consumed by the bidding and procurement process • More efficient procurement of long-lead items • Ability to start construction before entire design is complete	Potential for less innovative designs, as contractor is trying to minimize risk
Transfers liability for potential design deficiencies from the owner and owner's design consultant.to DB contractor	Less Owner control over design

	Reduced competition, because it can exclude smaller firms unable to lead larger projects

Construction Manager/General Contractor (CM/GC)[5] or Construction Manager At Risk (CMAR)

The construction manager/general contractor (CM/GC) delivery method is an integrated project delivery method that encourages collaboration and innovation within the project team. It is similar to Design-Bid-Build (DBB) in that the Owner retains a separate Architect/Engineer with contractual responsibility for project design. However, the CMGC contractor is retained earlier during the design process to review and provide comments on the constructability. Therefore, the Port has the benefits of design control of DBB with contractor input during design, similar to the Design-Build (DB) method. CM/GC is typically best used on larger (i.e., $5 million minimum) and/or more complex projects where the Port needs maximum control over the design and construction process and has a trusted construction manager to work with.

The CM/GC is hired early in the design process, even at the conceptual phase, using one of three methods:

1. Cost only: Similar to Design-Build, prospective bidders must be pre-qualified to submit proposals for the specific project. The Port would issue Request for Qualifications with evaluation criteria. All proposals would be evaluated and scored based on objective criteria by a qualified panel. Respondents found "qualified" would be eligible to submit competitive cost proposals. The contract would be awarded to the Responsible proposer submitting the lowest responsive cost proposal.

2. Best Value: For contractor selection based upon the "best value," the prospective bidders must be pre-qualified according to the process for "cost only" or the Port would issue a combined request for qualifications and proposals. The Port could include a set of minimum qualifications that all proposers must meet in order for their proposal to be evaluated. A panel evaluates all proposals meeting the minimum qualifications based on objective criteria. The cost criterion must account for at least 40% of the overall evaluation. The contract is awarded to the highest ranked CM/GC.

3. CM/GC Team Best Value: This process allows the Port to select a CMGC team made up of the CM/GC and specified Core Trade Subcontractors. The prospective bidder must be pre-qualified according to the process for "cost only." The Port would then issue a request for proposals for pre-qualified teams to submit a competitive cost proposal. The contract is awarded to the highest ranked CM/GC team.

[5] City Admin Code, Ch. 6 § 6.68

At approximately 60%-90% design, the Port and CM/GC would negotiate a “guaranteed maximum price” (GMP) for construction. If the Port and CMGC are not able to agree to a GMP, the Port may competitively bid out the final design as a DBB process.

If a GMP is agreed to, the CM/GC completes the construction through the issuance and award of competitive trade bid packages. Subcontractor trade packages are separately bid out and awarded on a low-bid basis. For Core Trade Subcontractors performing design, preconstruction, or design-assist services, work may be awarded based on qualifications only. The Port must validate all cost proposals by an independent cost estimate prior to the CM/GC subcontracting the work. The Port may also specify in the CM/GC request for proposals that the CM/GC self-perform one or more scopes of work. The Port may also authorize the CM/GC to negotiate subcontracts for trade work up to 7.5% of the total estimated construction subcontract costs.

The Contract Monitoring Division (CMD) establishes an overall LBE goal for a CM/GC project as well as specific LBE goals for each trade package. There is more CMD involvement and oversight related to LBE goals for a CM/GC and Design-Build project than for Design-Bid-Build.

With San Francisco Public Works (Public Works), the Port used this project delivery method to deliver the Cruise Ship Terminal. This was a $115 million project that was managed by Public Works. Public Works contracted separately with a design team and the CMGC contractor was retained when the concept design was complete.

Other City agencies have used or are beginning to use CM/GC to deliver their projects. SFO has used CM/GC instead of DB when the SFO design staff is completing design. WETA is using CM/GC to deliver the Downtown Ferry Terminal. This approximately $100 million contract is approximately two-thirds through construction and it is on schedule and budget. WETA staff report that the method has allowed for a good mix of owner control and benefit of contractor input. There is also a sense of shared responsibility to solve problems throughout construction. There has been only one contractor-initiated change order and because of contractor input during design, WETA was able to have a small contingency budget of five percent. Currently, 40% of the contingency has been used while 66% of construction has been completed.

Table 3: Advantages and Disadvantages of CM/GC

Advantages	**Disadvantages**
Schedule is faster: • It removes the components of the schedule that would typically be consumed by the bidding and procurement process • Efficient procurement of long-lead items • Ability to start construction before entire design is complete	Guaranteed Maximum Price (GMP) negotiation can delay project
Quicker contractor procurement process than DB, however longer than DBB	Owner needs to trust the CM/GC to know that the GMP is reasonable
Heavy coordination early on, reducing scope-, schedule- & budget-increases better than other methods	Potential for disagreements between project architect/engineer and CM/GC
Allows for Owner selection of best qualified independent architect/engineer and CM/GC	Requires reviewing agencies and stakeholders to expedite review of designs
Cost of project is known earlier in the process. Costs are more accurately forecast.	Less competitive environment because GMP is negotiated
Greater risk-sharing between Owner and Contractor	Owner remains responsible for addressing design omissions
Provides a single-point for construction accountability	Contractor may control contingency not Owner
Owner selects a construction manager to act as the general contractor with schedule and cost risk	GMP may be negotiated before design is complete requiring cost contingency
	No assurance the lowest possible price will be received
	Requires a very strong and fully engaged Owner project manager

LBE ROLE, OPPORTUNITIES AND OUTREACH

It is the goal of the Port to maximize participation of LBE in its contracting opportunities. Potential roles for LBEs will be identified for every project, regardless of delivery method. The City's Administrative Code Chapter 14B, the LBE and Non-Discrimination in Contracting Ordinance, establishes discounts for LBE prime consultants and empowers CMD to set a project specific goal for LBE subconsultant participation.

The Contract Monitoring Division (CMD) enforces the City's Administrative Code Chapter 14B, the Local Business Enterprise and Non-Discrimination in Contracting Ordinance. The ordinance establishes 10% bid discounts for Local Business Enterprise (LBE) prime contractors and empowers CMD to set LBE subcontractor participation requirements based upon availability of LBE firms to complete the type of work included in the contract.

Port staff will work with CMD staff to conduct outreach to construction contractors located in San Francisco to encourage LBE contractors to bid. Outreach will include email notifications to LBE contractors, posting the bid opportunity at the San Francisco Contractor's Assistance Center, and facilitating introductions at the pre-bid meeting.

SAN FRANCISCO LOCAL HIRING ORDINANCE

All proposed contracts, regardless of delivery method, will require contractor compliance with the mandatory participation level of the City's Local Hiring Ordinance. The mandatory participation level currently in effect and applicable for this Project is 30% of all project hours within each trade performed by local residents, with no less than 15% of all project work hours within each trade performed by disadvantaged workers.

PUBLIC AND REGULATORY REVIEWS

Project delivery method will not affect compliance with regulations and requirements. All projects, regardless of delivery method, will comply with environmental review requirements for the California Environmental Quality Act (CEQA); be consistent with the Secretary of Interior Standards for Historic Rehabilitation, as required in the Port Maintenance Directive; address requirements for the San Francisco Bay Conservation and Development Commission (BCDC); comply with Regional Water Quality Control Board and Army Corps of Engineers' permit; obtain Port building or encroachment permit; and provide for third party oversight as required.

SUMMARY

Port staff will continue to explore alternative project delivery methods in order to maximize opportunities for the contracting community and increase diversity of participation; better align cost estimates with bids received; and improve project schedule adherence. Staff will assess future projects and recommend a project delivery method for each project that will best achieve the Port's strategic goals and project-specific goals.

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