Appendix F
Procurement Strategy
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### Tables

1. Effectiveness of Various Procurement Methods to Meet Contracting Challenges for POA Modernization
# Acronyms

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<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
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<tr>
<td>CM</td>
<td>Construction Manager</td>
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<td>CM/GC</td>
<td>Construction Management/General Contractor</td>
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<td>D-B</td>
<td>Design-Build</td>
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<tr>
<td>DBB</td>
<td>Design-Bid-Build</td>
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<tr>
<td>DBE</td>
<td>Disadvantaged Business Enterprise</td>
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<tr>
<td>DOT&amp;PF</td>
<td>Alaska Department of Transportation and Public Facilities</td>
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<tr>
<td>FHWA</td>
<td>Federal Highway Administration</td>
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<tr>
<td>GMP</td>
<td>Guaranteed Maximum Price</td>
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<tr>
<td>IA</td>
<td>Independent Assurance</td>
</tr>
<tr>
<td>IE</td>
<td>Independent Engineer</td>
</tr>
<tr>
<td>MARAD</td>
<td>Maritime Administration</td>
</tr>
<tr>
<td>MOA</td>
<td>Municipality of Anchorage</td>
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<tr>
<td>POA</td>
<td>Port of Anchorage</td>
</tr>
<tr>
<td>QC</td>
<td>Quality Control</td>
</tr>
<tr>
<td>RFP</td>
<td>Request for Proposal</td>
</tr>
<tr>
<td>SBE</td>
<td>Small Business Enterprise</td>
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<td>USDOT</td>
<td>U.S. Department of Transportation</td>
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1.0 Procurement Overview

This section will: 1) address procurement strategies, 2) discuss advantages and disadvantages of delivery methods for procuring contracting services for the Port of Anchorage (POA) modernization, and 3) discuss advantageous features to incorporate into contract documents regardless of the delivery method chosen. Preliminary recommendations are provided for procurement strategies for POA modernization based on currently available information and level of design. The procurement strategy should be refined as other elements of project development are advanced. The goal for this section is to provide POA management with decision-making information so they can select the most appropriate procurement method for delivering the port modernization infrastructure at best value and most appropriate risk profile for the Municipality of Anchorage (MOA).

This section discusses various aspects of conventional design bid build delivery and “alternative delivery” methods of procurement. This term is an umbrella for various risk-sharing strategies used in civil infrastructure delivery in the United States.

As part of construction of the defense highways and other large civil infrastructure undertaken in the United States, public agencies, including federal agencies, have historically adhered to a strict division of construction and design responsibility. This strategy has contractually separated the design responsibility from the construction responsibility, which has led to a somewhat adversarial relationship between owners, designers, and contractors, thereby creating a potential for increased construction claims. To mitigate this trend, the Federal Highway Administration (FHWA) and other agencies across the country are leaning toward and adopting alternative delivery strategies as an alternative to the traditional design-bid-build approach. Alternative delivery can be defined as any procurement strategy that assigns some design or project development risk to the contractor rather than having risk for all adverse events during construction adhere to the owner. The governing philosophy is to engage the contractor as a partner in project development, and to assign construction execution risk contractually to the party best able to bear that risk.

2.0 Governing Regulatory Framework

The current funding plan anticipates that funding would be obtained from State of Alaska general funds. The POA is owned and managed by the MOA. Therefore, POA modernization procurement must be a fair and open competition procurement in accordance with MOA Municipal Code Title 7 Purchasing and Contracts and Professional Services, and State of Alaska laws and regulations.

The MOA and the State of Alaska allow alternative delivery practices in their procurement regulations through an “invitation to proposals” process in their respective procurement regulations, including Construction Management/General Contractor (CM/GC) and Design-Build (D-B). Both the MOA and the State of Alaska have successfully engaged in alternative delivery projects.

Many examples and guidance in this procurement discussion are drawn from FHWA, a sister administration to the Maritime Administration (MARAD) under the U.S. Department of Transportation (USDOT). This is intentional, as it draws on their experience and the robust program of project delivery comprised by FHWA-funded projects. It is recognized that the POA is not subject to FHWA, and that the current modernization effort is not expected to be a federalized project administered through MARAD; however, the underlying USDOT policies and regulations provide a prudent benchmark for administration of the project.

2.1 Owner Oversight

According to FHWA, in recent research on some of their projects, significant numbers of D-B contracts have unclear language regarding the division of responsibilities for quality control and project acceptance. The
owner must retain responsibility for acceptance of the project based on verification tests. This function should not be delegated. Other items that fall under the owner’s responsibility for large publically funded projects include a project management plan and financial plan.

It will be important on this project to show a strong level of responsibility by the owner’s team to ensure that those quality and financial plan functions are robust and actively managed.

3.0 Quality Assurance Strategies

3.1 Quality Assurance Overview

The FHWA defines quality assurance (QA) as planned and systematic actions necessary to provide confidence that a product or facility will perform satisfactorily when in service. A construction QA program should embrace the following core elements:

- Contractor quality control (QC)
- Agency acceptance
- Independent assurance (IA)
- Dispute resolution
- Personnel qualification
- Laboratory accreditation/certification

Accordingly, the construction contracts for POA modernization should address each of these elements.

Contractor QC consists of the systems used by the contractor to monitor, assess, and adjust their production or placement processes to ensure that the final product will meet the specified level of quality. Contractor QC requirements are typically controlled and specified in the construction specifications for the project.

Agency acceptance may be defined as all factors used by the owner to evaluate the degree of compliance with contract requirements and to determine the value for a given product (i.e., it is the action by the owner in determining that the product called for has been delivered and forms the basis for acceptance and payment for the product). This is based on a verification testing and inspection program undertaken by the owner. This set of activities and the responsibility for acceptance do not vary with delivery method. All methods of project delivery for the POA modernization will have provisions that outline the basis for acceptance.

IA is used where both contractor QC test data and owner verification test data (usually at lower test frequencies) are combined to provide the data on which owner acceptance is based. The purpose of the IA is to ensure the reliability of the data used for acceptance. Typically the IA system focuses on verification of results of split samples, use of an independent certified laboratory, third-party inspections, and other means. IA is undertaken by the owner to allow use of contractor QC test results as part of the data on which acceptance is based.

If contractor QC data are included in acceptance testing data, a dispute resolution scheme is required to adjudicate any differing results of the same work between QC tests and owner verification tests. This is one of the main uses of IA system and should be a contract requirement for POA construction contracts to the extent quality data collected by the contractor or collected by an entity under the control of the contractor are used for acceptance purposes.

Reliance on inspections and tests as the basis for project acceptance depends in turn on properly qualified sampling, testing and inspection personnel, proper sample handling and laboratory processes, and use of properly certified testing laboratories. Accordingly, provisions for personnel and laboratory qualifications will be part of the contract language.
The above framework can be distilled into three basic options:

**Conventional** – This option employs a full owner acceptance testing program coupled with owner-controlled IA testing to ensure reliability of acceptance testing results. Data from the contractor QC testing program are not used as basis for acceptance. This approach requires a robust field presence by the owner’s forces, and requires that the owner’s inspection and testing services be available to meet the contractor’s schedule at all times. It is typically better suited to D-B build projects or other projects where the design is finalized before construction and the scope and sequence of QA activities are well defined.

**Quality Control by the Contractor** – This option requires the contractor to engage a QC firm or qualified entity to perform the acceptance testing. The contractor QC data are transmitted to the owner as the basis for project acceptance. This approach would allow for a dual reporting scheme, but payment of QC forces is provided by the contractor. The Alaska Department of Transportation and Public Facilities (DOT&PF) has used this approach extensively in their D-B highway infrastructure program, and the Alaska Railroad has successfully used this approach as well. DOT&PF has used the term “independent Quality Firm” for this approach, even though the contractor secures and pays for these services under their contract. Contractor QC results are supplemented with the owner IA results, which ensures reliability of the contractor’s quality data. Dispute resolution language is incorporated into the contract to adjudicate any discrepancies between the contractor’s QC data and the owner’s IA data.

This approach is used in D-B contracting where the Designer-Builder may have many different activities underway that are governed by partially completed sets of construction documents. This strategy: 1) makes use of the large body of QC data collected by the contractor; 2) relieves the owner from schedule adherence by the testing group (i.e., the Designer-Builder directs and is responsible for ensuring that the quality staff meet the Designer-Builder’s schedule requirements); 3) the owner is responsible only for staffing an IA group, which is typically tasked with administering a much smaller and lower frequency testing program. Drawbacks include reliance on a set of QC data for which the owner is not directly responsible and can include disputes on acceptance if the QC and IA data do not indicate the same result.

**Independent Engineer** – Under this option, the Independent Engineer (IE) is a truly independent quality firm selected by the owner, or in some cases by a financier or a collaborative approach between parties. Its activities are contracted by use of a three-party agreement. The three parties are the contractor, owner, and IE. This approach is used in design-build-finance-operate-maintain or public-private partnership concession projects when the financing group wants an independent basis (not the owner’s or contractor’s) by which to determine that acceptance criteria have been met. This can allow the project to be accepted for quality, and opened to revenue generation even if the owner and the contractor are in dispute about some other aspect of the construction. This strategy can also be helpful with the contracting community in that it is not subject to delay or withholding of a substantial completion certification based on a contract dispute that does not directly affect quality and usability of the facility.

All these approaches are workable for multiple delivery mechanisms.

### 3.2 Contract Provisions for Quality

It is recommended that the contract include payment provisions related to quality. This should include “percent within pay limits,” a statistical measurement of quality, and pay reductions of variable materials such as structural surface courses, and concrete and asphalt pavements.

Another strategy useful in maintaining control of project quality during construction is a system of “quality checkpoints.” In this system, representatives of the owner, contractor, and duly authorized quality personnel meet and sign off on quality of work at certain milestones before that work effort can proceed. Typical quality checkpoints may include materials at point of origin, bench or factory testing of a component, pile acceptance, formwork prior to placement of concrete, subgrade and pavement course acceptance prior to the next course being placed, lifts of embankments, etc.
Stop work authority should be retained by the owner in any and all contract strategy. This should extend to duly authorized quality representatives of the owner, the contractor, IE, Independent Quality Firm, or IA forces.

4.0 Procurement Method Options

4.1 Disadvantaged, Small Business, Native-Owned, and Veteran Preferences in Contracting

As currently envisioned, the project is not federalized, and a formal Disadvantaged Business Enterprise (DBE) program will not be implemented. If the project were to be federalized, the POA would then have to incorporate DBE, Small Business Enterprise (SBE), Native–owned, and veteran-owned business requirements in their contracting program as provided for by law.

4.2 Large Contract Procurement Methods

This section addresses the major construction contract(s) required to deliver the POA modernization, and discusses three types of project delivery:

- Conventional Design-Bid-Build (DBB)
- Design-Build (D-B)
- Construction Manager/General Contractor (CM/GC; also known as CM at Risk)

A short generalized description of each process, with some advantages and disadvantages, is included in the following section. Attachment A presents a fuller treatment of contrasts between the three methods.

4.3 Overall Description of Procurement Method

4.3.1 Design-Bid-Build (DBB)

DBB is often referred to as the traditional or conventional method. It is the approach familiar to most owners. It is a linear process in which one task follows another with little to no overlap of tasks. This method requires 100 percent plans and specifications to be developed before the contractor estimates and bids the project. Contractors bid the project exactly as designed, and the work is awarded to the lowest bidder.

Advantages include:

- Complete owner control of design
- Traditional, well-known delivery method
- Simple procurement process to manage
- Fits project with well-defined scope
- Usually results in the lowest initial cost
- Good for simple, uncomplicated projects that are not schedule driven and not subject to change

Disadvantages include:

- Linear process means a longer schedule
- Little to no control over general contractor selection
- No control over sub-contractor selection
- No design, sequencing, phasing, configuration, or cost input from contractor during project design and planning
- Lack of flexibility for change
• Can create adversarial relationships
• Not very well suited for complicated projects that are sequence-, schedule-, or change-sensitive
• Project owner owns the project risk

4.3.2 Design-Build (D-B)
Under the D-B delivery method, a single entity provides for both design and construction of the project. This method usually requires a minimum of 30 percent of the design to be completed and included in the procurement documents. It usually employs a two-step, qualification-based shortlist followed by a best value or price-driven final selection. Producing procurement documents requires quite a bit of time at the beginning of the project. Once the D-B Team is selected, it is a non-linear process with overlapping design and construction. The Designer-Builder typically provides a fixed-price (lump sum) bid.

Advantages include:
• Single point of accountability for design and construction
• Enables fast-track delivery because construction begins before design is complete
• Project cost defined early in the process
• Good for projects where the owner can shift risk to the contractor, because the contractor can best manage the project risk

Disadvantages include:
• Designer-Builder controls and owns the contingency, which is bid as part of the lump sum; if risk does not occur, the owner still pays the contingency
• Designer-Builder controls the final design configuration based on the program guidance documents included in the Request for Proposal (RFP); the owner gives up control of the design, and the owner’s expectations may not meet design and performance requirements as stipulated in the RFP
• Change management may be expensive

4.3.3 Construction Manager/General Contractor (CM/GC)
The CM/GC method allows the owner to select a contractor, based on qualifications and competitive price proposals, to manage construction of the project before design is completed. It utilizes a two-phase approach: 1) a preconstruction phase, where the contractor and owner’s engineer work together to develop the design and estimate the project cost; and 2) a construction phase, where the contractor constructs the project once the owner has agreed to the project cost. The contractor is paid a fee for its services during the preconstruction phase. Once the design is roughly 80 to 90 percent complete, the CM/GC provides a Guaranteed Maximum Price (GMP) for the project with a date-certain schedule for project completion. If the owner does not accept the GMP, the owner has the flexibility to bid the project using a traditional DBB approach.

Advantages include:
• Relatively simple procurement process, much less time required than D-B
• Early involvement in design and estimating is beneficial in constructability review and in design and construction innovations
• Collaborative approach to completing the project in which the owner, engineer, and construction manager (CM) work together on design and project planning
• CM and owner have the opportunity to jointly identify, allocate, and mitigate project risk
• GMP early in the project
- CM responsible for delivery of the project on time and within budget
- Enables fast-track delivery; design and construction can overlap
- Good for large, complex, schedule-driven projects
- Owner and CM/GC manage contingency jointly

Disadvantages include:

- Perception that lack of competition during project cost development results in higher cost
- Owner/owner representative must actively participate in contingency management
- Owner must be an active participant in management of the project, which usually requires technical resources and skill sets that the owner does not have in house

5.0 Selection of Contracting Strategy for POA Modernization

Salient factors identified for selecting a procurement method for the Anchorage Port Modernization Project include:

- Contractor qualifications
- Control of design/designer qualifications
- Risk transfer
- Ability to manage change during construction
- Schedule
- Change management
- Contingency management
- Cost and schedule certainty

5.1 Contractor Qualification

Both D-B and CM/GC methods provide adequate ability to prequalify contractors and team members through a qualifications-based selection or short-list process. DBB solicitations under MOA procurement rules allow prequalification under the invitation to proposals process, and have done so on past projects. MOA procurement for low bid has been modified to accommodate a more rigorous prequalification step, followed by a low bid evaluation for final award. Prequalification of contractors is very desirable for high-execution risk work such as the POA modernization. Additional benefits may be achieved after prequalification by awarding the work or parts of the work on a best-value basis. This would include consideration of the quality of a contractor, as well as other factors such as cost or possible concept evaluation.

5.2 Control of Design/Designer Qualification

In DBB and CM/GC, the owner retains explicit control of the design. The contractor assumes no responsibility for the design. This allows the owner the highest level of control over the final design process. With the DBB and CM/GC procurement methods, the designer is typically chosen based on their qualifications. If federal funds are used, it is required that the designer be chosen this way.

In the D-B scenario, the owner exercises an influence on design through technical guidance documents. The owner can adjust this influence by use of more performance-based guidance to allow more D-B autonomy, and by using a more prescriptive approach in the technical guidance for areas where the owner’s requirements are more exacting.
In the POA modernization, where the owner has significant prior experience at the site and has engaged port concessionaires and shipping companies in detailed discussion of port requirements, the POA may wish to exercise a high degree of control over the final design. D-B could still be an effective strategy, using that knowledge to write a set of technical guidance documents that describe the program requirements.

5.3 Risk Transfer

Contractually adjusting the risk transfer is important for the POA modernization. In a large, complex project such as the POA modernization, writing excessively risk-adverse terms that benefit the owner usually leads to higher initial costs and claims situations that do not effectually transfer that risk to the contractor. For high-risk work, a more equitable division of risks usually results in lower overall project costs and better value for the owner. In the POA modernization, it will be important to engage in a quantitative risk analysis of the construction and to arrive at an equitable distribution of risks to the party best able to bear and mitigate those risks. Engaging the contractor community in this process is important.

A major difference between alternative delivery approaches can be seen in the approach to risk transfer and feedback from the potential proposers. In a D-B delivery scenario, contractor engagement is typically handled through reviews of draft RFQs (called the Industry Review phase) and technical guidance documents after the short list has been established and before a final RFP is issued. This can be somewhat time-consuming and cumbersome as the owner adjusts the risk profile through successive drafts of the RFP prior to final issuance. The owner is also to some extent arbitrating the risk profile in the contract among several competing firms that may have different strengths and weaknesses and therefore different tolerances for risk transfers of specific items. In the CM/GC process, this can be an ongoing discussion while the CM/GC is engaged in preconstruction activities. Discussions tend to be more open and forthright since no contract has been signed and the terms can be adjusted equitably for the two parties that are involved. However, under the CM/GC approach, the owner is hearing from only one contractor regarding risk transfer, while under a D-B approach, the owner receives feedback from all the proposers regarding the risk transfer strategy that will ultimately be included in the final contract document.

In general the DBB method transfers the least risk to the contractor, the D-B method transfers the most risk, and CM/GC is intermediate between the two; however, specific clauses and approaches can be used with all delivery methods.

For both D-B and CM/GC strategies, specifics such as use of a geotechnical baseline report, contract relief for defined adverse events, and specified contingencies or “deductibles” for first- or low-impact occurrences of adverse events can be used effectively to adjust the risk profile in the contract to a best value for both parties. This process should be accomplished with background knowledge of a construction-focused quantitative risk analysis.

5.4 Ability to Manage Changes during Construction

All projects experience change during execution, and the contracting method and structure of the contract should be selected to meet the challenges envisioned at the start of the project as best as can be determined. In DBB delivery, the owner at time of award knows almost nothing about the contractor’s proposed approach to the work and the team that will execute the work. In addition, the owner’s understanding of the basis for contractor pricing is low. These factors, coupled with the risk transfer position of most DBB contracts, render changes after bid expensive and time-consuming to enact. It can lead to adversarial negotiations, use of cumbersome time and materials type of pricing, or accepting a change order premium on needed change work.

D-B work shares some of the inflexibility in accommodating change that DBB projects have in that contractor pricing is opaque; the contractor has been given full notice to proceed on the as-bid scope and is gearing all efforts and approach to executing that scope as efficiently as possible. However, potential change orders are fewer under the D-B approach versus the DBB approach due to the D-B procurement and risk transfer.
Changes in the work or adverse events that dictate additional work come at a premium to the competitively bid portion of the work. D-B also has advantages over DBB. By virtue of the RFP and proposal process, the owner has 1) secured a prequalified team and 2) made a selection of the team based in part on the approach and robustness of the team, their appropriate response, and their approach to the work; and 3) the Designer-Builder has had time to study and consider the project in most cases for months prior to starting the work.

CM/GC contracting allows the owner and the contractor to arrive at a mutual agreement on the scope of work and the likely difficulties to be encountered, and to discuss possible changes in the owner’s program prior to final pricing. Also, in the preconstruction phase, the owner and the contractor will jointly participate in risk analysis effort to identify, quantify, and mitigate likely risks. Another factor in processing changes that occur after award is that CM/GC provides an open book pricing methodology that allows owners full information on the approach to pricing. This makes executing changes much less adversarial. However, should the owner and CM/GC not come to terms regarding the final construction cost, the risk transfer discussion that occurred between the owner and the potential contractor may not be viewed in the same light by the second proposer who may secure the final construction.

5.5 Schedule

Of the contracting strategies presented, DBB has the most linear and hardest to adjust schedule. D-B has the greatest schedule advantages after the award to the Designer-Builder has been made because the D-B bidding includes the time element as part of the bid. However, procurements tend to be long, both to develop the terms of reference and to allow time for proposers to gain the project familiarity and perform the design development necessary to provide a hard dollar bid. Adjusting the schedule after award is difficult. CM/GC provides the most schedule flexibility, if the owner accepts the terms and price of the CM/GC and allows an early start to construction, if that is desired, through use of an early work packages concept. The CM/GC process is probably also the most adaptable to variations in the funding stream.

In the case of the Anchorage Port Modernization Project, the availability and schedule of funding are unclear at this time. The project may have to be divided into parts or phased to accommodate the funding schedule, which may necessitate multiple procurements or phased procurements. Phased procurements usually work well when the funding timetable is fairly certain.

5.6 Contingency Management

All contractors and owners will hold contingencies in the contracting environment. In a DBB scenario, the owner is usually left with the most risk for adverse events and must carry contingencies for those risks. The owner’s problem in managing the contingencies is that he does not know how the contractor is going to value those impacts until events occur. The contractor, on the other hand, is forced through the low bid process to severely limit his held contingency. The contractor is also in the dark about how readily the owner is going to acknowledge and compensate for changes that occur during the contract.

In the D-B process, the Designer-Builder has more risk assigned through the contract, and has time to evaluate the risks on the project more thoroughly. Price competition is limited somewhat by the nature of the shortlist process and best value award, so the Designer-Builder is likely holding more contingency/markup going into the project than a low bid contractor. The owner does not have to carry contingency related to design risk, but does have to carry contingency for other owner responsibilities under the contract. Similar to DBB, actually exploiting the contractor’s contingencies, and what the cost of adverse events is going to be from the owner’s perspective, is problematic.

In the CM/GC process, the owner and contractor arrive jointly at a plan for contingency management and structure the contract to account for each party’s responsibilities and contingencies.

For the POA modernization, the owner would likely hold contingencies for such items as adverse subsurface conditions (we recommend using the geotechnical baseline report to rigorously define relief events),
encountering unknown hazardous materials, and delays due to unusual or unusually severe weather. The owner may also, depending on how the contract is written, hold contingencies for environmental permit conditions such as delays because of proximity of marine mammals to the work, as well as contingencies for third-party effects to the contract for which the owner is typically responsible. Force Majeure relief will likely be in the contract; however, risk analysis will inform the owner on how much, if any, contingency to hold for Force Majeure events.

5.7 Cost and Schedule Certainty

For DBB work, the initial cost is well known, but final cost is not as well defined. For D-B work the initial cost is known and the risk transfer in the contract tends to suppress cost growth. In CM/GC, the initial cost and potential for cost growth are low and relatively well known.

TABLE 1
Effectiveness of Various Procurement Methods to Meet Contracting Challenges for POA Modernization

<table>
<thead>
<tr>
<th>Element</th>
<th>DBB</th>
<th>D-B</th>
<th>CM/GC a</th>
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<tbody>
<tr>
<td>Ability to prequalify contractors and teams</td>
<td>Moderate</td>
<td>High</td>
<td>High</td>
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<tr>
<td>Ability to equitably adjust risk in the contract</td>
<td>Moderate</td>
<td>High</td>
<td>High</td>
</tr>
<tr>
<td>Owner control of design</td>
<td>High</td>
<td>Moderate</td>
<td>High</td>
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<tr>
<td>Ability to manage change during construction</td>
<td>Low</td>
<td>Moderate</td>
<td>High</td>
</tr>
<tr>
<td>Ability to manage contingency</td>
<td>Low</td>
<td>Moderate</td>
<td>High</td>
</tr>
<tr>
<td>Cost and schedule certainty</td>
<td>Moderate</td>
<td>High</td>
<td>High</td>
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a These factors apply only when the owner and CM/GC performing the preconstruction service phase agree on a GMP for the final construction. If, however, the owner and CM/GC cannot come to an agreed-upon GMP, the relative weight would be more consistent with DBB scoring.

5.8 Procurement Method Related to Development Option Selected

All development options shown in design charrettes A, C, and D incorporate major marine, wharf, and vertical construction and will be phased to some extent. The different procurement methods can be adapted to any of the development options being considered. The port option chosen will likely not have a large affect on the procurement method.

The funding schedule and how the project is segmented will have a larger impact on the procurement method. Smaller stand-alone segments would better lend themselves to a conventional DBB process.

6.0 Specialty Scope Items

In general, the POA modernization involves open-cell sheet pile demolition, armor-stone placement, underwater excavations, difficult pile driving, and heavy civil port construction. It also involves some vertical construction of the port administration building and utilities work, and may involve relocation of a building. Additionally, a large-ticket, long lead item will be the permanent rail-mounted cranes to service the lift-on/lift-off operation of Horizon Lines.
The cost of the vertical work and associated utilities work is anticipated to be a smaller cost compared to the overall scope of the project. These elements may well be subcontracted; however, any theoretical cost savings in avoiding the markup by bidding this work separately would be largely offset by contract administration costs and coordination inefficiencies.

The cranes themselves must be rigorously specified by the end user to be most successful for long-term operations. Acknowledging that the previous crane order had to be retracted, possibly at some financial loss to Horizon, a strategy for this may be use of a separate turn-key procurement. If the cranes would ultimately be owned by Horizon, then Horizon should probably be the contracting party for their procurement. If POA would own the cranes and lease them to Horizon, then POA could be the contracting party for their procurement. Because of the past difficulty, however, POA should probably engage in a memorandum of agreement with Horizon Lines that specifies some damages and timelines for ordering/cancelling cranes; it may also be advisable to determine if POA can obtain insurance for canceling or delaying a crane order once placed. It should be noted that under a CM/GC process, the contractor’s expertise could be brought to bear on the crane procurement, even if that work was not included in his scope of work for construction.

7.0 Construction Phasing

The fact that demolition must be coordinated with new construction and, in particular, that dock berths cannot be taken out of service until new facilities are functional, the difficulties coordinating between contractors and economies of scale would argue for putting as much scope into one contract as feasible from a funding perspective.

If the project is partially funded, the DBB and D-B delivery methods must have a defined scope of work for the available funds (accounting for all program costs, including owner’s contingencies, etc.). Change orders that add significant work in the form of additional phases beyond the initially established work would usually not be in the best interests of the owner. Therefore, as more funds become available, the subsequent phase(s) would then be solicited and awarded as separate contracts. This could be a workable approach, since the phasing shown in the design alternatives arrives at logical breaks, with functional utility achieved at the end of each phase. The overall program would lose some economies of scale and would pay for separate mobilizations for the separate contracts.

If a CM/GC process were used, it would be possible to retain the CM/GC through a sequence of additional phases using the same transparent approach to pricing and risk. This would take advantage of the construction manager aspect of the CM/GC approach. This approach may also have efficiencies in mobilization costs, avoiding lengthy procurement time cycles in the middle of the program, and other areas. This strategy would be most effective if a relatively well-known obligated funding stream were identified in the financial plan. If the funding was secured only on a year-by-year basis in the legislative process, this approach would not be as viable.

8.0 Miscellaneous Contracting Provisions

If the project is fully State-funded, and no USDOT funds are used in port development, then:

- Explicit DBE/SBE goals will not be required.
- A State-funded bidder and offeror preference will be required.

Contracting in Alaska typically has a low number of bidders. Additionally, the in-state price preference of 10 percent required by the Alaska Administrative Code will have the effect of limiting out-of-state interest in the solicitation. An option to consider would be to federalize the project intentionally, thereby eliminating
the in-state bidder/offeror preference and widening the bidder pool. Of course, there are other restrictions associated with federalizing the project. Overall, we would not recommend the federal option if not needed.

Consideration should be given to the regulations and possible consultation with MOA and State attorneys to rigorously define the in-state bidding parameters for the project. An effort must then be made to inform the contracting community of the exact rules for the POA modernization. This discussion should consider joint venture partnerships and other incorporation vehicles that may be used to secure a local bidder standing.

If the project receives federal funds from the USDOT, DBE program requirements will be followed, and the in-state bidder/offeror preference will not be used.

8.1 Negotiated versus Best Value Award

The CM/GC approach uses a qualifications or qualifications plus price best value to initially award a preconstruction services contract to a contractor. This initial contract (or initial notice to proceed) is in the form of a professional services agreement in which the contractor is compensated for his professional labor in lending expertise during the preconstruction phase. Once design has progressed to a mutually agreed-upon point, the contractor will tender a price, which may be designated a guaranteed maximum price or target maximum price for consideration by the owner. The final construction award is then negotiated with this single contractor until acceptable terms are met or the owner decides he will not be able to reach an agreement; at this point, the owner terminates the agreement prior to the construction phase, after which the owner has the opportunity to conduct a traditional low bid procurement. However, if agreement is reached, the construction contract is awarded based on the negotiation. Given the past history of the port expansion and the negotiated element of the award to the previous construction manager, this method of award may not be acceptable to MOA officials, particularly since only one contractor is involved in the negotiations, and the award may be in the $100s of millions.

CM/GC does allow the owner almost unprecedented insight into the contractor’s approach to execution, as well as the approach to pricing and the components that make up the tendered price. Although these factors allow public officials to make solidly based determinations of reasonableness in supporting their decision for an award, the negative perception of negotiating a large contract should be considered in selecting CM/GC for the POA modernization. Alaska has experienced success on large CM/GC awards—e.g., Alaska Fish and Game Department’s Jack Hernandez Sport Fish Hatchery ($100 million), DOT&PF’s Ted Stevens Anchorage International Airport Concourse B ($200 million), and Alaska Railroad Corporation’s Tanana River Crossing ($156 million). These awards are competitive in the sense that the initial selection was an open competitive process.

D-B infrastructure projects typically have a best value award structure. This combines price and other factors such as team, approach, design innovation, and technical factors into a single “best value” score, and the award is made on the basis of the highest best value score. This approach has the following advantages:

- It is a competitive selection process that is formulaic and transparent to proposers.
- The process yields a quantitative score that public officials can use to justify award decisions.
- The price and technical factors can be adjusted on individual projects to assign the owner’s value on price versus technical factors.
- Negotiations are not usually necessary to secure an award.

This approach is proven in public contracting, including in Alaska, where the DOT&PF has awarded approximately $200 million in D-B work using this method.

An alternative approach that can be used in the D-B process is a fixed-price variable scope award. With this approach, the owner usually defines a minimum program that represents a responsive bid, and identifies additional scope or enhancement items that can be implemented. The owner then states a target award value and evaluates bids based on how much of the extra scope (or reduced time impacts, etc.) is proposed.
within (under) the target price. This approach places a strong emphasis on the owner’s desired price control and allows for a best value by virtue of the additional scope proposed. However, this approach has not been used in Alaska for a major public infrastructure project.

8.2 True Shortlist and Weighting for Qualifications

In an invitation to bid (low-bid) process, effort is made to prequalify bidders and then advance to a low-bid award. This is a better solution than an open solicitation low-bid process, where the only qualifications are minimal requirements of 1) not being debarred or in default and 2) having adequate bonding capacity. However, this process does allow an evaluation committee to judge and score the relative strengths of a contractor’s or joint-venture’s firm and personnel team. As discussed above, the bidding climate in Alaska sees only a few bidders, and the in-state preference will limit the bidder pool even further. The POA modernization is a complex project that will likely require significant out-of-state experience to execute successfully, because there are few comparable projects in Alaska. The composition of teams, including their true strengths and weaknesses, should be a significant basis for award, and not just a pass-fail criterion.

In a best value solicitation of any type, the owner should be able to achieve their cost goals in award through weighting factors, fixed-price variable scope award, or use of a published hard dollar cap strategy.

9.0 Preliminary Recommendations

Recommendations for procurement of the project are preliminary at this point, in that the final decision must be based on the level and schedule of funding. For that reason, the following recommendations are preliminary and qualified based on the status of the project. The recommendations are written more as a guide on how to move forward as the project variables become clarified. Any of the three main types of procurement could be used on the project if safeguards and enhancements are written into the procurement documents to assign risk and ensure that the quality and schedule of the project are maintained. Key to success of the project are vetting the qualifications of the contractor(s), monitoring quality, and controlling budget.

General recommendations are as follows:

1. Engage in a rigorous quantitative risk analysis exercise focused on construction and delivery risks. Continue this effort periodically during project development and use the output to assign and manage owner’s contingencies and to develop the owner’s desired positions on contract terms and relief events in the contract.

2. Determine if the desire to control the final design of the work is seen to be so strong as to eliminate the D-B approach to project delivery. The major project goals could be satisfied by describing the program using technical guidance documents and leaving the final design detail with the contractor.

3. Determine if the single negotiation approach is acceptable—the negotiated aspect of construction award that CM/GC implies. This methodology has many benefits of utilizing the expertise of the contractor, while the designer works directly with the owner. Negotiating a final cost for larger projects has not been done previously in MOA projects.

4. Depending on the outcomes of items 1, 2, and 3 above, select a delivery mechanism that allows for robust evaluation of a proposer’s qualifications. This is likely either D-B or CM/GC for the major construction contract(s).

5. Use an Independent Engineer or owner-controlled quality approach. Combine this with stop work authority by the QC and IA staff. Use a system of quality checkpoints and reporting to ensure the owner that quality is being incorporated into the work as it progresses, without the need to uncover work.
6. Consider use of a geotechnical baseline report to define subsurface change site/differing site contract relief provisions. If warranted, expand this approach to encountering unknown hazardous materials.

7. Require prequalification for whichever contracting strategy is used. Strongly consider a contracting strategy that truly scores and weights the qualifications of the firms and teams proposed instead of a more basic pass-fail type of prequalification.

8. Use a price-weighted best value award, a fixed-price variable scope award, or a best value with hard dollar cap award approach to achieve owner’s cost control goal.

9. Bundle the largest available funded scope into the initial project. Incorporate the Open Cell Sheet Pile demolition and shore protection into the first phase if feasible.

10. Use the design development charrette’s solutions to ensure that functional elements are constructed in each phase and that port capacity is maintained at the end of each phase.

11. If CM/GC is selected as a preferred large contracting method, attempt to structure the financing to take advantage of the construction manager aspect of this procurement to allow delivery of several phases under one procurement.

12. Engage Horizon lines in discussions on crane procurement. Put the crane procurement on a separate path from the heavy civil construction work. Investigate the feasibility of obtaining insurance on crane procurement delay or cancelation.

13. Further research the status and effects of the Alaska bidder/offeror preference from a legal standpoint as the proposed funding plan is solidified. Recognize that this may limit the number of bidders and will strongly affect the makeup of proposers’ teams. Determine any other salient funding requirements or limitations that would affect bidding or project delivery.

14. Pursue an industry outreach to inform the contracting community of the program. Include funding information, timeline, potential packages, and potential phasing. Consider engaging in this effort in the lower 48 as well as Alaska, and consider requesting statements of interest from potential teams.

10.0 References


