MEMORANDUM

July 3, 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 on Potential Next Steps Regarding Piers 30-32 and Seawall Lot 330

DIRECTOR'S RECOMMENDATION: Information Only; No Action Requested

EXECUTIVE SUMMARY

At the February 26, 2019 Port Commission meeting, Port staff delivered a presentation to the Port Commission regarding potential long-term development opportunities at Piers 30-32 and Seawall Lot (SWL) 330.

The presentation expanded upon prior presentations (on May 28, 2019 and August 14, 2018), reviewed past development efforts, provided staff's generalized view of potential costs to pursue intensified use of the Piers 30-32 site, and laid out a series of options for moving forward on such a development effort.

The Port Commission expressed interest in moving forward with a competitive solicitation strategy that will clearly outline the revenue generation and/or subsidy proposal for each property separately, but that still allows for the Port Commission to consider coordinated development of complementary uses at the two sites if there is a proposal that would benefit the Port and the public in doing so.

As an intermediate step before pursuing community feedback regarding selection criteria for a Request for Proposal (RFP) soliciting responses from qualified developers, Port Commissioners asked staff to return with additional information regarding (a) the substructure conditions and costs of Piers 30-32 and (b) how best to maximize the

maritime value of the deep-water berth on the east face of the piers in conjunction with a development project. This staff report and associated presentation intends to provide that information, as well as highlighting Port staff's intent to solicit interim proposals for pop-up activation of the site. The report concludes with an outline of the proposed schedule for moving forward should the Port Commission reiterate its desire to move ahead on the path set forth at the February 26 meeting.

REVIEW OF PRIOR DISCUSSIONS

August 14, 2018[1]: Staff outlined "part three" of the San Francisco Waterfront Land Use Plan (WLUP) public process and recommended that the Port Commission adopt Resolution 18-45 endorsing the amendments to the WLUP and staff completion of related research and tasks.

In recent efforts to repair Piers 30-32, SWL 330 had been linked to the development proposals to help offset costs of repair and retrofit. These efforts did not produce a project. Port staff observed that the improved understanding of the need to address seismic stability of the Seawall project and the challenge of adapting to future sea level rise further increase the projected costs of a Piers 30-32 development project. Port staff also advanced for the first time its recommendation that a future Piers 30-32 RFP no longer exclusively tie its development to SWL 330, so that the Port Commission and the public may enjoy clearer information about the costs and benefits of achieving synergies between the sites and the alternatives to developing both together.

After hearing community support, the Port Commission adopted Resolution 18-45, endorsing the recommendations produced by the Waterfront Plan Working Group to prepare draft amendments to the WLUP. Port Commissioners also expressed hope for reusing rather than demolishing Piers 30-32, and support for the staff recommendation regarding the development of an RFP that would invite responses for Piers 30-32 and SWL 330 but would not require them to be bundled in a single proposal.

February 26, 2019[2]: The Port Commission heard two separate but related items: an informational presentation on the RFP strategies for the historic piers of the Embarcadero Historic District; and an informational presentation regarding an RFP strategy for Piers 30-32 and SWL 330.

On the latter item, Port staff explained that the 1984 fire that damaged the Piers 30-32 substructure had destroyed the historic sheds, thus excluding the Piers from the historic district (though they are subject to regulation by the Bay Conservation and Development Commission, the State Lands Commission, the Regional Water Quality Control Board and the Army Corps of Engineers). Staff also detailed that the high repair/retrofit costs

[1] The staff report for the August 14, 2018 item can be found here: https://sfport.com/sites/default/files/Commission/Documents/Item%2011A%20Endorse%20WLUP%20recommendations.pdf

[2] The staff report for the February 26, 2019 item can be found here: https://sfport.com/sites/default/files/Commission/Item%209B%20-%20final%20with%20attachments.pdf

of Piers 30-32 have hindered past proposals (the Bryant Street Pier, the 34th America's Cup, the Golden State Warrior's initial arena proposal), despite each such proposal using the land value of SWL 330 as a subsidy.

Port staff presented a range of options for each site, including no-project, sole source and competitive solicitation pathways. In response to Port Commissioner confirmation of a preference for redevelopment and reuse of the sites, Port staff renewed its recommendation from the August 14 meeting regarding a single RFP that would invite separate responses for Piers 30-32 and SWL 330, while also retaining the ability to pursue complementary and synergistic use proposals between the properties.

Port Commissioner comments directed staff to move forward on that basis, while recognizing that the high repair/retrofit costs of Piers 30-32 are compounded by the Seawall project and sea level rise. Port Commissioners also expressed support for community comment regarding the value of the deep-water berth at Piers 30-32. The Port Commission concluded by asking staff to return with a deeper discussion of substructure conditions (including updated cost estimates) and a clearer articulation of the specific criteria regarding the berth, which would help shape the Port Commission's direction to seek community input on further criteria for a Piers 30-32/SWL 330 RFP solicitation.

May 28, 2019[3]: The Port Commission heard an informational presentation with updates to Port staff's recommended Historic Piers RFP strategy.

As part of the discussion with staff, the Port Commission agreed with staff's recommendation to pursue two staggered but overlapping Historic Piers RFP processes, the first in the South Beach area (Piers 38 and 40) and the second in the northern waterfront (Piers 19, 23, 29, and 31). Port staff and the Port Commission further agreed that the Piers 30-32/SWL 330 RFP would be issued between the first and second Historic Piers RFPs, observing that such a schedule would require a coordinated community engagement strategy to succeed in keeping the public and potential proposers informed.

ENGINEERING CONSIDERATIONS AT PIERS 30-32

Background and Basis of Conceptual Development Costs

As discussed above, all development on Piers 30-32 (except for Red's Java House) would not be subject to Building Code provisions for historic structures and would be required to comply with the more stringent Code requirements for new construction. For the following estimates, rough-order-of-magnitude or conceptual-level construction costs are used by Port staff to evaluate financial feasibility of potential development options at Piers 30-32. Proposed development projects are generally high-level

[3] The staff report for the May 28, 2019 item can be found here: https://sfport.com/sites/default/files/Documents/Item%2011A%20Historic%20Piers%20RFP.pdf

concepts, and consequently there is a high degree of uncertainty in the required scope of work, the construction schedule, and ultimately the estimated cost of investment to realize the project. Typically, these costs are expressed as a unit cost per square foot of pier deck, or a cost per linear foot of shoreline in the case of seawall improvements. The unit costs used in these evaluations are usually based on past bids for similar past projects, conversations with experienced construction contractors, and adjusted with some judgment when unique site conditions are present. Markup factors are also applied to capture project uncertainties and expected project costs outside of the contractor's bid. While a single number is usually presented, it should be understood that at the conceptual stage of a project there is a wide range of possible outcomes for the final project costs that would narrow as further design and due diligence is performed.

Substructure Repair of Piers 30-32: The oldest portions of Piers 30-32 were constructed in 1912 and have been exposed to the corrosive marine environment for more than 100 years. The reinforced concrete deck framing and piles have significant deferred maintenance needs and this damage has reduced the allowable load rating on much of the pier deck. It is assumed that any major pier development would address all the structural repair needs throughout the pier. Even if current reduced live loads could support uses of a future development, repairs are still needed to stop the progression of damage and to ensure overall structural integrity required for seismic performance.

In 2012, the America's Cup Event Authority (the Event Authority) hired a team of engineering consultants and construction contractors to perform a detailed condition survey of Piers 30-32, develop preliminary repair drawings, and prepare a construction cost estimate based on these drawings. Ultimately the Event Authority did not pursue the full repair project, but the Port purchased this engineering documentation focusing on substructure repair of the piers for its future use. The detailed construction cost estimate resulted in $60 per square foot of pier deck ($34 million in 2012 dollars divided by 574,000 square feet). This price was based on repair quantities and details on the preliminary drawings, plus additional allowances for additional repair needs likely to be discovered during construction. Two years later, the Golden State Warriors explored use of the Piers for a new basketball arena on an elevated pier deck adapted to sea level rise. The immense scale of the Warriors' proposed improvements required a new pier structure to be built over the older deck, and as a result their team's studies generated limited new information on the repair needs of the existing facility.

Although the 2012 Event Authority condition survey is relatively recent, the Piers have continued to deteriorate due to exposure to the Bay. Deterioration of reinforced concrete in saltwater tends to accelerate over time, rather than progressing at a steady rate. Accounting for deterioration from 2012 until repair construction actually begins on the proposed development, Port Engineering recommends a 10% to 30% markup factor to capture the inevitable increase in repair scope. It is important to note that over the lifespan of a future development, there will be ongoing maintenance and repair needs, particularly as to any existing elements that are not repaired during the initial

development project. The magnitude of maintenance and repair needs will relate directly to the scope and quality of initial repair construction.

To capture the effects of construction cost escalation, Port Engineering contacted several construction contractors with experience performing under-deck concrete repairs to piers and wharves and asked them for an opinion on how much bids for this type of work have increased since 2012. The cost of this work is strongly driven by labor rates, and the prevailing wage for the trades involved in marine construction has increased by a factor of 1.35 since 2012. Beyond union-negotiated wage increases, contractors believed that in the current Bay Area construction market, an additional premium was needed to attract labor to this relatively difficult and dangerous work. To account for this, a factor of 1.5 was recommended. The low and high costs for substructure repair presented in this report combine the factor of 1.5 for escalation with the 1.1 to 1.3 factor for additional repair needs, resulting in a price range of $100 to $120 per square foot in today's dollars.

Seismic Retrofit of Piers 30-32: In 2017 the Port commissioned a study of redevelopment construction costs at two disparate piers, Pier 19 and Pier 38, to support economic feasibility studies for the Waterfront Land Use Plan Update and subsequent Embarcadero Historic Piers Request for Interest. While the total pier rehabilitation costs of each pier varied greatly based on level of deterioration, the separate and supplemental range of seismic retrofit costs of approximately $75 to $150 per square foot was similar for both piers. This range represents differing levels of seismic performance and the general uncertainty of conceptual-level cost estimates and is not due to differences in the construction type or soil conditions of Pier 19 and 38.

Piers 30-32 is a significantly larger facility than either Pier 19 or Pier 38, which has the potential to reduce per square foot seismic retrofit costs due to economies of scale. However, the large size of the facility may tend to encourage development options with high occupant loads, leading to more stringent seismic performance requirements. Given these two competing factors, Port Staff cannot justify increasing or decreasing the per square foot seismic retrofit costs determined in the 2017 study of Piers 19 and 38. Port Engineering estimates a construction cost of $80 to $160 per square foot to perform a substructure seismic retrofit of Piers 30-32, accounting for a 10% escalation factor to translate the 2017 estimate to current construction market conditions.

Seawall Lateral Spreading: The cost for the seawall repair presented during the February 2019 Port Commission Meeting was based on the Seawall Program conceptual budget of $585 million per mile in 2016. The conceptual budget is an average cost for seawall replacement along the 3 mile stretch for purposes of program budgeting and is not specific to individual facilities. It is based on the 2016 study options and consideration of recent projects including the Seattle Seawall replacement (Elliott Bay). Escalating this value to 2019 dollars results in a unit cost of $629 million per mile (or $120,000 per linear foot).

The Port's Seawall Program team is currently analyzing data from a much more detailed soil investigation and is performing conceptual engineering to develop retrofit/replacement schemes and costs that are specific to sections of the Embarcadero Seawall. This effort, which will continue over the next 6 months, will result in a more reliable picture of both the vulnerability of the Seawall at Piers 30-32 and of the cost and preferred method to address lateral spreading at the site. Early indications are that seawall earthquake risk is lower at Pier 30-32, however, until this more refined information becomes available, Port Engineering recommends using a cost of $120,000 per linear foot to address sea wall lateral spreading risk at Pier 30-32. Port staff notes that a project at this location would not necessarily be expected to bear all of these costs; the amount of contribution would be subject to negotiation based on more detailed analysis of the retrofit project.

Demolition of Piers 30-32: Although the Port Commission feedback at the prior meetings summarized above expressed a preference for reuse of Piers 30-32, Port staff analyzed the costs of a demolition project to provide context for the estimates above. Throughout its long history, the Port has demolished many finger piers due to deterioration and commercial obsolescence. Previously presented demolition costs for Piers 30-32 were based on the 2012 Port project to demolish Pier 36. Pier 36 was located immediately south of Piers 30-32 and is of similar construction to most of Piers 30-32. In 2012, the demolition contractor's successful bid to remove Pier 36 was approximately $35 per square foot of pier deck. Since 2012, construction costs in the San Francisco Bay Area have increased and environmental mitigation and monitoring requirements for in-water construction have become more stringent. Taking these factors into account, and based on discussions with experienced contractors, Port Engineering estimates a construction cost of $45 to $55 per square foot to demolish Piers 30-32, including environmental mitigation measures and third-party environmental monitoring.

Cost Summaries for Potential Future Uses

Using the conceptual costs provided above, the potential future scenarios for Piers 30-32 are described below, including the conceptual cost for each scenario. One scenario addresses the reality that without investment in renewal, the Port will eventually bear the cost of demolishing the facility. Alternately, the costs to repair and seismically retrofit the pier deck are summarized, excluding and including seismic improvements to the seawall.

A markup factor of 40% is applied for project development costs, which is intended to capture the costs of engineering, environmental studies and monitoring, permitting, construction inspection and oversight, and other project costs that are not reflected in the contractor's bid price. Additionally, a second 40% markup factor is applied to account for general uncertainty in construction market conditions as well as the current high uncertainty in the eventual scope of the project. All costs are presented in 2019 dollars without adjusting for future cost escalation over the duration of the project. All values are rounded to three significant digits.

Restore substructure and perform seismic retrofit: The costs presented in the table below represent a project that would make Piers 30-32 ready for major new improvements to be constructed on top of the pier deck. Since the needs of the pier deck will vary depending on the nature of any top-of-deck improvement, the high degree of uncertainty in the total project scope is reflected in the range of costs from $185 million to $290 million. Improvements with more extensive and heavier construction and with higher occupant loads will push project costs towards the higher end of the range.

Construction Scope	**Low $/SF**	**High $/SF**
Repair Concrete Piles and Pier Deck	$100	$120
Seismic Retrofit of Pier Structure	$80	$160
Construction Subtotal	**$180**	**$280**

Project Cost	**Low $**	**High $**
Construction Subtotal *(Unit Cost Subtotal x 574,000 SF)*	$103,000,000	$161,000,000
40% Project Development Costs	$41,200,000	$64,400,000
40% Project Contingencies	$41,200,000	$64,400,000
Total Project Cost	**$185,000,000**	**$290,000,000**

Compared to conceptual costs to demolish the Piers and construct a new wharf, a repair and seismic retrofit appears to be more economical on a per square foot basis. However, a newly constructed pier would not necessarily need to be as large as the existing Piers 30-32, could be designed to have a longer lifespan than a repaired facility, and could be built at a higher elevation to accommodate sea level rise.

Include seawall in project cost: The seismic retrofit costs presented above assume some level of strengthening against lateral spreading to the portion of Piers 30-32 near the seawall, as well as the separation of the near-shore portion of the structure from the remainder of the piers with a seismic separation joint. However, the project scope required to actually reduce the magnitude of seawall lateral spreading is not included in these costs. Applying the $120,000 per linear foot estimate to the 655 feet of seawall connected to Piers 30-32 results in a lateral spreading retrofit cost of $79 million. Adding this value to the pier repair and retrofit costs from the previous section results in the total conceptual project costs as shown below. Again, the $120,000 per linear foot cost already includes all markup and contingency factors.

Project Cost	**Low $**	**High $**
Project Cost: Pier Subtotal *(refer to previous section)*	$185,000,000	$290,000,000
Project Cost: Seawall Subtotal *($120,000/LF x 655 LF)*	$78,600,000	$78,600,000
Project Total: Pier + Seawall	**$264,000,000**	**$369,000,000**

The performance of the seawall during an earthquake has implications to the critical infrastructure along the Embarcadero, as well as to Piers 30-32. As noted above, the amount of funding a potential private development at Piers 30-32 would contribute to a retrofit of the seawall section within the site will depend on a number of policy and economic factors.

Demolition of Piers 30-32: Without investment in structural repair and re-use, Piers 30-32 will continue to deteriorate and will eventually need to be demolished. Total project costs are expected to be between $47 million and $58 million based on the methodology previously described.

Construction Scope	**Low $/SF**	**High $/SF**
Demolition of Pier	$45	$55
Construction Subtotal	**$45**	**$55**

Project Cost	**Low $**	**High $**
Construction Subtotal	$26,000,000	$32,000,000
40% Project Development Costs	$10,400,000	$12,800,000
40% Project Contingencies	$10,400,000	$12,800,000
Total Project Cost	**$47,000,000**	**$58,000,000**

Sea Level Rise

The scope and cost to protect the existing pier deck from inundation due to waves, storm surge, and tidal fluctuations are not included in the previous estimates.

Most of the Port's historic finger piers were constructed at a similar deck elevation. Piers 30-32 were constructed toward the higher end of that range apart from the valley area in the middle which is slightly lower. Piers in the South Beach area, like Piers 30-32, have higher wind wave exposure than most other areas, which is reflected in the Port Building Code flood provisions and the latest FEMA draft FIRM maps. Considering waves, the current 100-year flood elevation is very close to the existing top of deck. Over time, sea level rise (SLR) will increase the frequency of wave overtopping and shorten work windows for under pier maintenance and construction. Eventually, sea level rise will result in tidal inundation on a regular basis. San Francisco Capital Planning Sea Level Rise Guidance has recently been updated to include projections from the latest State guidance (2018 Ocean Protection Council). The updated guidance includes a likely SLR projection of 1.1 feet by 2050 and 3.4 feet by 2100, and a high SLR projection of 1.9 feet by 2050 and 6.9 feet by 2100. For reference, the most recent development proposal on Piers 30-32 by the Golden State Warriors (2014) included raising the deck level 3 feet.

Port Engineering has just commenced a study of finger pier flood proofing measures. Until results are available, the judgment is that 1 ft of sea level rise can be

managed (expected to occur between 2035 and 2050), 2 feet is potentially manageable but may require significant flood management strategies (expected to occur between 2050 and 2070), and that 3 feet will likely require major changes to the facility (expected to occur between 2070 and 2090).

While the Port's Seawall Program seeks to address the effects of sea level rise through improvements at the seawall, they will not address the vulnerability of Piers 30-32. Future improvements constructed on the deck of Piers 30-32 have an opportunity to incorporate resilience against sea level rise into their design. In this regard, Piers 30-32 have a unique advantage compared to other Port piers with existing historic buildings that must be preserved. However, the existing pier deck will become increasingly difficult to repair and maintain as the average water level rises over time.

In response to California State Assembly Bill 691, Port Engineering has commissioned a study to assess the vulnerability of the Port's finger piers to sea level rise, and to provide concepts for potential adaptations to protect the piers from flooding and inundation. The information generated by this study will be incorporated into the assumed scope and lifespan of the proposed development solicitation.

THE PIERS 30-32 MARITIME BERTH

On March 21, 2019, Port staff delivered a presentation regarding the potential Piers 30-32/SWL 330 development solicitation to the Port's Maritime Commerce Advisory Committee (MCAC). The discussion touched on several topics, including the need for seismic and sea level rise protection to safeguard continued use of the berth for deep draft vessel berthing, and the concern that a development project could compromise the continued use of the berth. Based on the feedback received there, and on further analysis by the Port's Maritime Division, Port staff recommends the inclusion of the following specifications in any solicitation for development proposals at Piers 30-32:

- Incorporation of adaptation strategies to protect the berth for projected sea level rise through the year 2100, including infrastructure to protect the berth and berth access operations and ancillary public uses (such as open space and public access);

- Coordinated maritime and public access use of the pier aprons, managed to support maritime berthing and operations that may require the area to be closed to public access to provide a clear area and safety protection (including a roughly rectangular-shaped area along the east end of the piers that is the length of the berth (approximately 655 feet) and 60 feet deep, and a 50-foot access way along the north and south edges of the piers);

- Improved piles and fendering for deep-draft berthing along the east end of the piers, with the inclusion of improved piles and fendering to accommodate berthing space for smaller vessels along the north and south sides of the piers;

- Electrical (shore power or alternative power), potable water and wastewater infrastructure to support the deep-water and other berthing operations and to achieve the goals of reducing emissions and protecting air and water quality;

- Loading requirements for access route and operations area, reflecting Fire Department and Port Engineering input and including a strengthened path of travel for large vehicle access to the berth(s) for delivering stores, removing waste, providing water and for supporting other pierside operations.

INTERIM LEASING OPPORTUNITY FOR POP-UP PUBLIC ENTERTAINMENT

During public comment at Port Commission meetings and in other contexts leading up to and following the February 26 information item, Port staff have been made aware of the public's desire to activate Port properties. Because of the length of time any development project would take to achieve entitlements and project approvals Port staff see an opportunity to activate Piers 30-32 for short-term "pop-up" public engagement and entertainment opportunities in parallel with the proposed RFP process noted above, while not affecting the overall timeline to achieve the needed capital improvements at the site. Therefore, after pursuing the primary purpose of the developing selection criteria for the RFP Port staff also intend to solicit community feedback on potential criteria for interim uses. Depending on the result of that community dialogue Port staff would return to the Port Commission with a recommendation on whether and how to pursue such an interim opportunity.

PROPOSED RFP DEVELOPMENT SCHEDULE

Consistent with the Port Commission request of May 28, 2019 and with the updated WLUP goal of Partnering for Success, Port staff proposes to ask for community input on the selection criteria for the RFP at meetings of the Central Waterfront Advisory Group, the Southern Waterfront Advisory Committee and the Maritime Commerce Advisory Committee through summer and fall of 2019. As described at the May 28 Port Commission meeting, feedback from those community discussions will be brought back to the Port Commission in the fall of this year as part of a request for direction to issue an RFP on the terms described above.

CONCLUSION

Port staff recommends that the Port Commission direct staff to incorporate feedback from the July 9, 2019 meeting and proceed with further engagement with community advisory committees in support of the solicitation schedule as outlined above. Staff looks forward to feedback from the public and direction from the Port Commission regarding these aspects of the potential solicitation.

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