December 7, 2018

TO: Park Board Chair and Commissioners

FROM: General Manager - Vancouver Board of Parks and Recreation

SUBJECT: Stanley Park Seawall Restoration - Phase 2 - Contract Award

RECOMMENDATION

A. THAT the Vancouver Park Board authorize staff to negotiate to the satisfaction of the Park Board's General Manager, City's Director of Legal Services, and the City's Chief Purchasing Official and enter into a contract with Polycrete Restorations Ltd., for Phase 2 of the repair and rehabilitation of the Stanley Park and English Bay seawall, for a term of approximately seven (7) months, with an estimated contract value of $1,940,600.00, plus applicable taxes over the initial term, to be funded through 2018 Capital Budget.

B. FURTHER THAT the Director of Legal Services, Chief Purchasing Official and Park Board General Manager be authorized to execute on behalf of the Board the contract contemplated by Recommendation A;

C. THAT no legal rights or obligations will be created by Board adoption of Recommendations A and B above unless and until such contract is executed by the authorized signatories of the City as set out in these Recommendations.

REPORT SUMMARY

An Invitation to Tender (ITT PS20181254) was issued in October 2018 for Phase 2 of repair and rehabilitation of the Stanley Park and English Bay seawall. The ITT was advertised on the City of Vancouver website and BC Bid and the work was called in accordance with the terms and condition of the City's Procurement Policy AF-015-01. The ITT evaluation committee, and, subsequently, the Bid Committee, have considered the responses received, and on that basis recommend that the Park Board negotiate and if such negotiations are successful enter into a contract as described above with Polycrete Restorations Ltd.

BOARD AUTHORITY / PREVIOUS DECISIONS

As per the Vancouver Charter, the Park Board has exclusive jurisdiction and control over park land use in the City of Vancouver, including any structures, programs and activities, fees, and improvements that occur within designated parks.

The Park Board's Procurement Policy requires that contracts with values from $500,000 and less than $2,000,000 must be approved by the Park Board, with Bid Committee and Chief Purchasing Official concurrence.

REPORT

Background/Context

Construction of the Stanley Park Seawall began in 1917 and continued for the next 75 years. Much of the early incremental progress of the construction was overseen by Park Board master stone mason James Cunningham from the late 1920s until his retirement 35 years later. The Stanley Park seawall was officially declared complete on September 21, 1980, with the final paving between Third Beach and Second Beach.

Walking or rolling along the Stanley Park Seawall is an essential component of the Stanley Park experience and it is estimated that there in excess of 9 million visitors a year that explore some or all of the seawall. The seawall was the inspiration for the Seaside Greenway Vancouver's iconic waterfront pathway experience. Since 1980 this concept has been extended over 26km and connects more than a dozen waterfront parks and destinations from the Vancouver Convention Centre to Spanish Banks Park.

The seawall was constructed to protect the Park from open waters as well as to provide a promenade around the perimeter of the Park. Given its history, sheer size, and prominent location within the site as well as the millions of visitors that are drawn to it each year, the seawall is considered an important feature of Stanley Park and a character defining element of Stanley Park as a National Historic Site.

Previous Repairs and Reconstruction

The seawall is subject to seasonal battering by westerly wind driven waves, large storm events and ramming by debris and loose logs which have caused damage and deterioration to the wall structure and undermining of the wall and the adjacent pathways. The section of seawall from Second Beach to Prospect Point has been particularly vulnerable, requiring ongoing maintenance as well as emergency repairs following 2006, 2012, and 2015 storm events.

In 2010 and 2011, two portions of the seawall, in Stanley Park (near Second Beach) and at English Bay (near Sunset Beach), were reconstructed to address erosion and structural stability concerns. The cost to reconstruct the combined 800 meter of the seawall was $5.5M (with a $2M Federal grant). The wall was built at a height of 3.0 m, to accommodate sea level rise conditions known at that time, and has the ability to be raised by an additional 0.3m in the future.

Seawall Condition Assessment

In 2013, the Vancouver Park Board commissioned a comprehensive condition assessment of the Stanley Park and English Bay segments of the seawall in order to establish the baseline condition of the structure and identify areas for future repair. This study provided a prioritized inventory of areas requiring repair along with estimates on the remaining service life of the seawall sections. The report also identified deterioration concerns and provided preliminary design and cost estimates for the required repairs. The 2013 report was used to establish the funds needed for the immediate renewal program in the 2015-2018 Capital Plan.

An updated condition assessment of the seawall along with the detailed design of the repairs was completed in 2016-2017.

Stanley Park Seawall Repairs Project

As a result of the recent condition assessment reports, a two phase project for major restoration of the seawall was initiated in 2017. The program focuses on highest priority areas to restore

the integrity of the seawall structure, increase resilience, and preserve the historic fabric of the seawall.

Phase 1 of the project was completed over the spring and summer of 2018 at a cost of $1.3 million. The scope of work included filling of voids and cavities, replacing of missing stones, repointing of mortar joints, stabilizing bulging and undermined foundations, and installing riprap for scour protection at the base of the wall.

The current Phase 2 contract continues the work from Phase 1, as described above, along other sections of the seawall. Photos that illustrate typical conditions in the priority areas of repair are attached as Appendix A. In addition to the base scope, tenderers were asked to provide separate pricing for major retrofit of a 50 meter section of the seawall (north of Lumberman's Arch) as an alternate (add/delete) scope. This approach allowed the Park Board to achieve cost certainty without committing to a more significant scope of work.

The purpose of the ITT was to identify suppliers with a demonstrated capability to carry out the repairs to the seawall while providing competitive pricing and meeting the Park Board's service requirements.

Appendix B provides an overview of the project phases.

Climate Change
Impact of climate change, in particular sea level rise and increase in high intensity storm events, were considered throughout the design process. This project aims to increase the resilience of seawall through repairs to high priority areas as well as designing the repairs to respond to higher frequency of large storm events. In addition, the designs incorporate possibility for future height increases in order to address emerging threats due to climate change.

Engagement with Musqueam, Squamish and Tsleil-Waututh Nations
The Musqueam, Squamish and Tsleil-Waututh Nations have been engaged with the project since early 2016 through the Park Board's Stanley Park Intergovernmental Working Group. Prior to starting Phase 1 construction, an Archaeological Overview Assessment (AOA) was completed. The AOA indicated that the entire Project area is considered to have high archaeological potential and set out mitigation measures that should be undertaken during the construction phase of the project. These measures include: archaeological monitoring of construction activities that could potentially impact archeological resources; implementation of a Chance Find Management Plan for all other locations which were not recommended for archaeological monitoring; and regular updates about the project progress to applicable First Nations.

Throughout Phase 1 of the project, all ground disturbing activities as well as work at sensitive locations along the seawall, were monitored by project archaeologists and First Nations monitors. The ongoing monitoring ensured that the construction activities did not adversely impact any archaeological or culturally sensitive sites within the project area. This work will continue in Phase 2.

Protecting the Marine Environment and Historic Fabric
An Environmental Impact Assessment was conducted. It indicated that the project is not likely to result in significant adverse environmental effects to species or habitats in the intertidal or subtidal areas along the Stanley Park and English Bay seawalls. Both project phases have been reviewed by DFO, Port of Vancouver, and Parks Canada and applicable permits and

authorizations have been obtained. A project-specific Environmental Management Plan has been prepared, which in conjunction with independent environmental monitoring, would ensure mitigation measures are successfully implemented.

As with Phase 1, ongoing monitoring as well as forage fish screening of the work areas will ensure that the Phase 2 construction activities do not impact the foreshore habitat.

The seawall is considered a character defining element of the Stanley Park National Historic Site. Consequently, the repairs proposed for the project have been selected based on best practices for repair of marine infrastructure as well as in accordance with the *Standards and Guidelines for the Conservation of Historic Places in Canada*. Materials and methods chosen for the repairs are physically and visually compatible with the seawall.

Schedule and Impact on the Public

Some of the repairs require the contractor to work in dry conditions. Consequently, construction is set to begin in March 2019 and substantial completion is targeted for December 2019. This construction window provides the contractor with the lowest annual tide levels, thus minimizing construction of temporary isolation structures and reducing impact on the coastal environment. In addition, the low tide periods occur during regular daylight working hours, which reduce work after hours and any potential impact on residents. Phase 1 of the project followed a similar schedule.

The construction period coincides with the tourist season during which the seawall receives millions of visitors. In order to minimize impact to the public, the contractor is required to prepare and submit for approval a Traffic Management Plan as well as a Noise and Vibration Mitigation Plan. Furthermore, the contractor is required to establish work areas such that at least one shared lane of travel is available for pedestrian and cyclists on the seawall. Where a lane of travel cannot be provided safely, the contractor is required to provide accessible detours along with required signage.

Signs in the park, social media, and outreach to local stakeholders will occur when the work commences, by staff, to provide information about the work areas and detour routes where applicable.

Strategic Analysis

The ITT was issued in the accordance with Park Board's Procurement Policy. In addition to the base price, the tenderers provides separate pricing for major retrofit of a 50 meter section of the seawall (north of Lumberman's Arch) as an additional (add/delete) scope which will be incorporated into this Phase 2 of the project. Responses received from:

Company	Base Price	Additional Scope Price	Total Price
Polycrete Restorations Ltd.	$ 1,151,800.00	$ 788,800.00	$ 1,940,600.00
Golder Associates Ltd.	$ 1,716,300.00	$ 763,500.00	$ 2,479,800.00
Industra Construction Corp.	$ 2,052,966.39	$ 1,575,020.80	$ 3,627,987.19

The responses were evaluated through the work of an evaluation team comprised of representatives from Park Development under the stewardship of Supply Chain Management to

ascertain if the responses offered good overall value to the Park Board; both quantitative and qualitative factors were evaluated.

Some of the Criteria considered in the overall evaluation process included:

- Price and the overall net impact on the finances of the City;
- The tenderer's experience in projects similar to the nature, size and complexity of this Project, including experience in working within coastal and marine environment and their proven ability understand and adhere to regulatory requirements;
- The Tenderer's reputation;
- The skill, knowledge, experience of the tenderer's resources in repair of historic masonry structures of similar construction; and
- The tenderer's ability to meet the City's requirements as set out in the invitation to tender;

Based on the overall evaluation, the team concluded that the tender submitted by Polycrete Restorations Ltd., best met the Park Board's requirements and provided best overall value.

Financial Implications
Finance has reviewed and confirmed that funding is available from the 2015-18 multi-year Capital Budgets (CPP-00054) and is being requested as part of the 2019 Capital Expenditure budget. As a result of the ITT, the Park Board is able to achieve cost certainty for the proposed contract term.

Legal
The Park Board's Procurement Policy requires that all contracts that have been awarded by Bid Committee plus the Board will be signed by the Director of legal Services.

CONCLUSION

Staff recommend that the Vancouver Park Board negotiate and enter into a contract as described herein with Polycrete Restorations Ltd., for the Phase 2 repair and renewal of the Stanley Park and English Bay seawalls.

General Manager's Office
Vancouver Board of Parks and Recreation
Vancouver, BC

Prepared by:
Park Development

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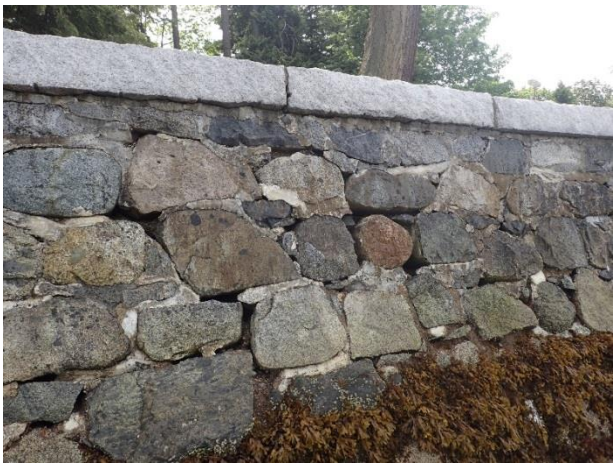
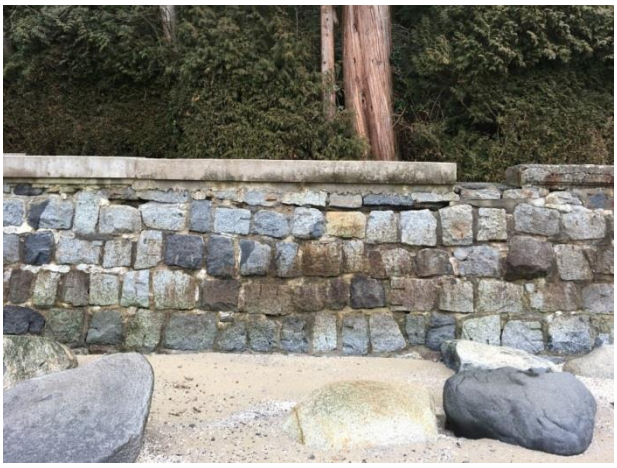
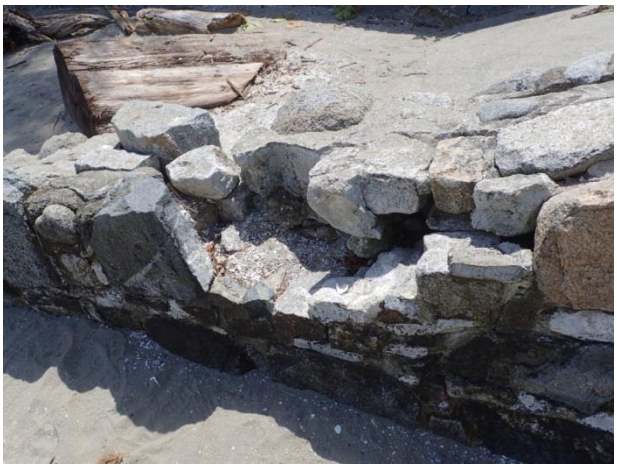
Typical Seawall Repairs **APPENDIX A**

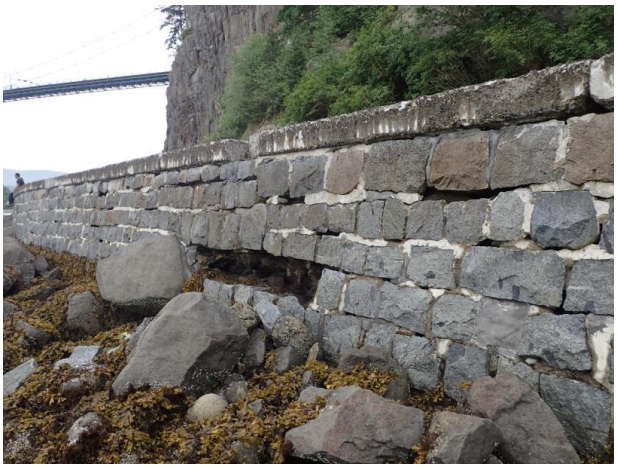
A) Grouting Voids and Cavities



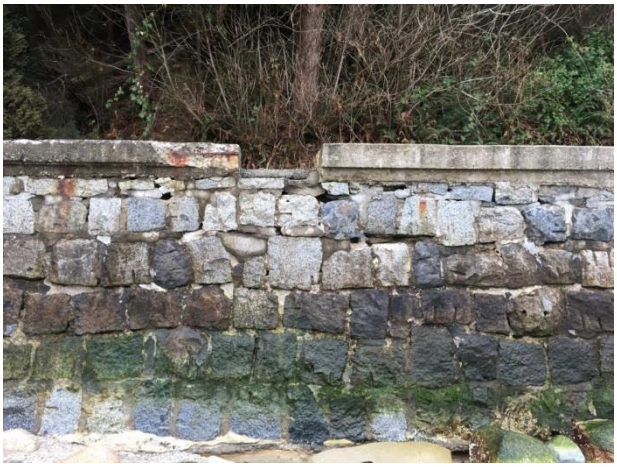


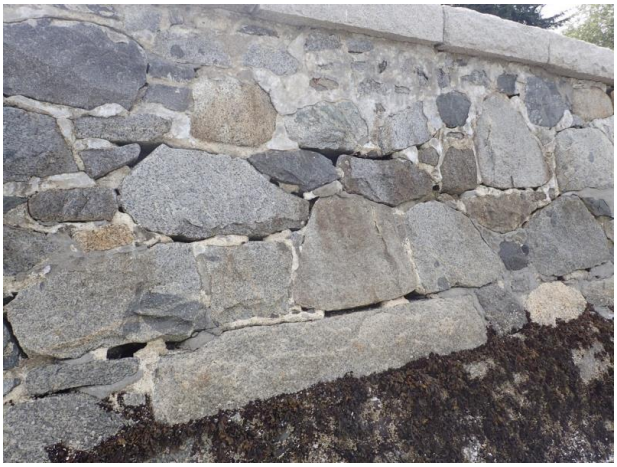
B) Replacement of Missing Stone Masonry Units





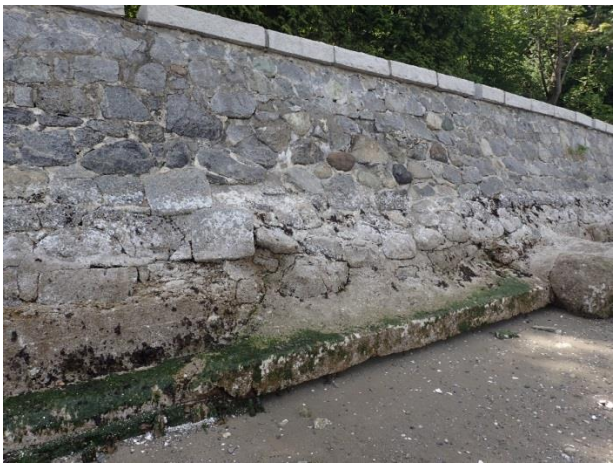
C) Repointing of Mortar Joints

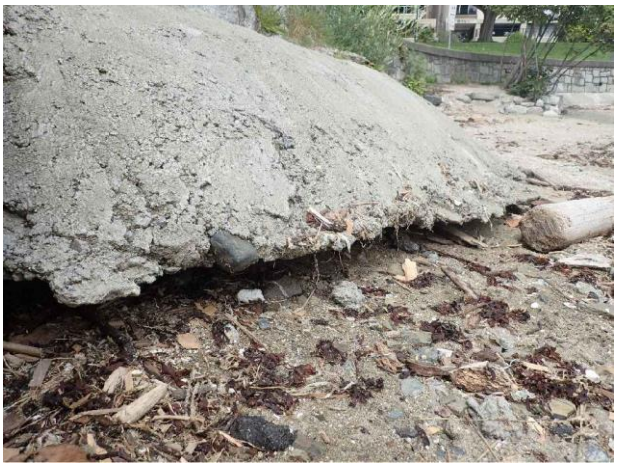




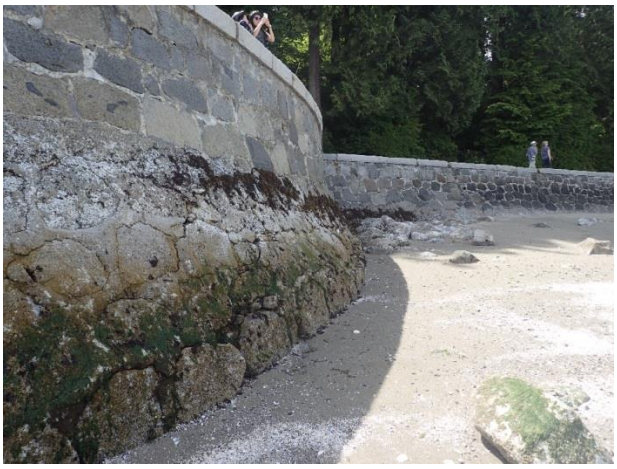
Typical Seawall Repairs **APPENDIX A**

D) Stabilization of Undermined Foundations (including scour protection)

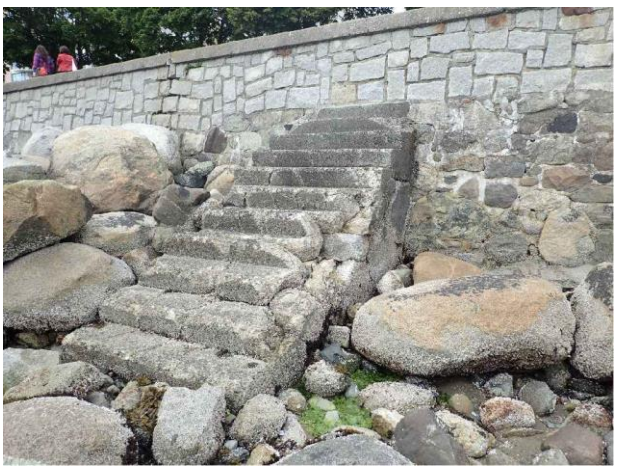


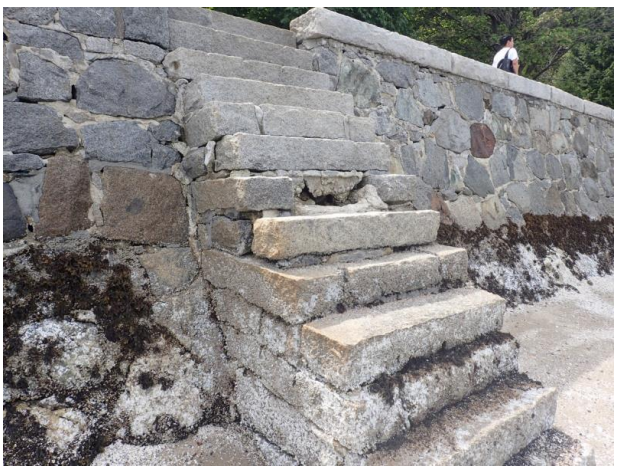


E) Stabilization of Bulged Sections (including scour protection)



F) Repairs to Undermined and Damaged Stairways





Typical Seawall Repairs **APPENDIX B**