



Date: January 21, 2002

TO: Board Members - Parks and Recreation
FROM: General Manager - Parks and Recreation

SUBJECT: Little Mountain Reservoir Seismic Upgrade Project

RECOMMENDATION

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| <p>A. THAT the General Manager be authorized to negotiate a memorandum of understanding with the Greater Vancouver Regional District for the Board's consideration in accordance with the expectations outlined in this report;</p> <p>B. THAT the preliminary design concept for the reservoir rooftop proceed to public consultation.</p> |
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BACKGROUND

The Little Mountain Reservoir is located in Queen Elizabeth Park on a property owned by the Greater Vancouver Regional District (GVRD); see map on the next page. The GVRD property is wholly surrounded by park property. The surface of the GVRD property is leased to the Park Board for park and recreational purposes; conversely, the Park Board has granted the GVRD multiple easements through the park for water lines and the smaller Kersland Reservoir. To most visitors the GVRD property is indistinguishable from the rest of the park.

The complexity of land ownership, easements and leases reflects the dual nature of the site as one of the City's most prominent parks and one of the region's most important water facilities. The planned reconstruction of the water reservoir therefore also necessitates a reconstruction of the centre of the park. GVRD and Park Board are cognizant of their joint responsibility for this project.

In anticipation of the project, the Park Board conducted a public process on the long term vision for the park, reported to the Board on May 3, 1999. An information report providing a project update was received by the Board on April 30, 2002. Since then, Park Board staff have cooperated with the GVRD and their consultants on the development of the project, and have participated in two well-attended open houses hosted by the GVRD. The Park Board has also retained the services of a landscape architecture consultant to develop a design concept for the rooftop.



❑ MEMORANDUM OF UNDERSTANDING

The project has reached a stage where basic responsibilities and expectations of GVRD and Park Board need to be recognized in a memorandum of understanding, including:

1. GVRD is expected to design and construct a reservoir that allows a load of 290 lbs/square foot (live load or in combination with supplemental dead load), sufficient for tour bus parking, more extensive landscaping, and a measure of fountains, pavilions, sculptures and decorative paving. Note that the code requirement is only 100 lbs/square foot. The current design of the new reservoir provides for the higher load; the estimated incremental cost of \$1.5 Million is to be borne by the GVRD, subject to GVRD Board approval.
2. GVRD is expected to accept the design concept for the rooftop, noting that final technical approval of all rooftop work commissioned by the Park Board will be required at a later stage.
3. GVRD is expected to minimize impacts to park use during construction, including generally maintaining access to conservatory, restaurant, golf course and service areas, managing construction traffic, maintaining a safe and neat work site, etc.

4. Park Board is expected to grant a temporary right-of-way for construction purposes. The GVRD has requested these rights-of-way to construct the extension of the 37th Avenue Main and assorted other piping, all south and west of the reservoir, also for a construction laydown area and access to the reservoir southeast of reservoir and immediately adjacent to the lawn bowling facility. The proposed documents have been reviewed by the City Surveyor, and are now undergoing legal review (see attached map, indicated in yellow).
5. Park Board is expected to grant a permanent right-of-way for the new piping corridors described above (see attached map, indicated in blue). The GVRD already holds numerous similar rights-of way in Queen Elizabeth Park. This request is part of the mentioned legal review.
6. Park Board is expected to make available to the GVRD approximately 50 parking spots at Nat Bailey Stadium for the construction crews so that further impact on the reduced number of parking available to park visitors is avoided.
7. Park Board is expected to contribute to the reservoir project by accepting responsibility for landscape restoration, tree replacement and associated work items, with a dollar value not to exceed \$0.5 Million.

GVRD and Park Board have developed their portions of the design of reservoir, park restoration and rooftop in a manner consistent with the above expectations, noting that the GVRD Board has not yet approved construction funding.

The Park Board's proposed contribution has been informed by the GVRD's contribution of additional loading capacity which is needed to support a rooftop design that is commensurate with the public's expectation for such a high-profile setting.

PROJECT UPDATE RESERVOIR AND VALVE CHAMBER

The scope of the construction project is large. The existing reservoir roof will be demolished, extensive internal reconstruction and a new roof are planned. The construction zone will extend beyond the perimeter of the GVWD property due to access requirements, new exterior piping in the park, and the need for lay-down and staging areas. The footprint of the reservoir will not increase, but there will be an additional external valve chamber; see previous map; and the reservoir rooftop elevation will go up by two feet.

- **Exterior piping.** In preparation of the reservoir reconstruction, the GVRD intends to build the new 37th Avenue Main and other piping. The construction zone will extend

from the parking lot at the foot of 33rd Avenue either in or roughly parallel to the park road towards the Kersland Reservoir, past the golf course parking lot to the edge of the golf course. Funding for this work has been allocated; the work is scheduled for the period from April to August 2002. The construction may disrupt park activities in the southeast portion of the park, but staff will attempt to minimize impacts on golf patrons and users of the Kersland Reservoir sports court.

- **Reservoir.** The design of the new two-cell reservoir has been completed; funding will be sought at the GVRD Board meeting of March 1, 2002. If approved, the project will immediately go to tender so that preconstruction activities can commence in June 2002, including site preparation with building of temporary access road, security fencing, setting up camp, etc. The rooftop will remain open for limited public use until Labour Day, then demolition is scheduled to commence. The construction schedule sees completion of Cell 1 by May 2003, full completion by December 2003, and site restoration by April 2004.

The GVRD has requested a temporary right-of-way for an area south and east of the lawn bowling facility as a laydown area. The site has been picked carefully to not require tree removal while providing access to the reservoir for demolition and construction. The site will be restored to its original condition after completion of the reservoir.

- **Rooftop elevation.** The new roof of the reservoir will be two feet higher than the existing one, largely for the purpose of increasing the emergency water supply. Where possible, the increased height will be screened by shrub plantings or re-grading. Access and exit road will also have to be modified.
- **Valve chamber.** The proposed two-cell reservoir requires a valve chamber of roughly 45 by 70 feet, 30 feet high. It will be located midway along the southwest edge of the reservoir, sticking out of the treed berm that screens the reservoir from the park. The valve chamber will be faced in natural stone; the top of the chamber will have a paved roof deck accessible from the adjacent walkway. The valve chamber will be visible from the park but is located behind an existing stand of deciduous trees that will be preserved.
- **Loss of trees.** The design of valve chamber and piping routes was informed by the desire to keep as many trees as possible; however, 42 trees have to be taken out. These trees are 35 years old, they include a red oak of 24" diameter, nineteen douglas-firs up to 30 meters tall, several red-cedars and a few miscellaneous trees. Staff propose a twofold mitigation strategy: to replace each lost tree with two new ones of similar species as partial habitat replacement, and additionally to plant one specimen tree per lost tree as mitigation of loss of experiential quality. Locations for these new trees still have to be determined; some will be needed to replant the slope and screen the new valve chamber from the park; other replacement trees may be used elsewhere in the park.

❑ CONSTRUCTION IMPACTS ON PARK USE

During the reconstruction of the reservoir a number of groups and stakeholders will be impacted. As a part of the public consultation phase for this project two open houses in May and October 2001 were held. The concerns of various park users and stakeholders were identified and staff have subsequently worked on strategies to deal with these issues. Specifically, staff have heard of the needs of the tai chi groups for an interim location for their very popular morning programs. Discussions with the Oakridge Mall and Riley Park Community Centre to provide space in their facilities are progressing well. Staff also continue to work with tour bus operators to discuss logistics for passenger drop off and bus parking. Further meetings with these groups are planned for the late spring.

Detailed information on the project has been shared with the Lawn Bowling Club and with Season' s Restaurant; plans for collaborative marketing strategies for all revenue generating facilities in Queen Elizabeth Park are being developed.

Park and GVRD staff continue to work cooperatively in order to minimize the impacts of the work on the activities of park stakeholders.

❑ PROJECT UPDATE DESIGN OF ROOFTOP

The Park Board has retained a landscape architecture firm, Kim Perry and Associates, to develop a design concept for the rooftop, incorporating the ideas of the residents that participated in the long range vision. The preliminary design concept (see attached plan) is a dramatic re-interpretation of the original concept: water, sculpture, planting, and pavilions create a varied, lively setting on the northern half while parking is available in the southern half.

- **Water.** Evocative of the underground water infrastructure, water is featured in a number of fountains and small pools; the centrepiece is the fountain plaza with a grid of fountain jets embedded in the pavement. These jets will be controlled via computer to perform an infinity of still or moving patterns, a water show destined to become a new popular attraction.
- **Sculpture.** In 1969, Prentice Bloedel donated the sculpture currently gracing the rooftop, *Knife-Edge (Two Piece)* by Henry Moore, a masterpiece of arguably the best-known sculptor of the last century. It is proposed to integrate this sculpture into the new design, treating it as the first acquisition of a future sculpture garden.

Staff have made contact with members of the arts community to discuss the idea of a sculpture garden in that location, and met with sympathetic response to explore notions

like curatorial leadership, appropriate maintenance, permanent versus temporary installations, and cooperation with the Vancouver Art Gallery or other public or private entities. The design concept is to create a variety of individual sculpture settings, varying light levels, scales, backdrops, materials, plantings, and water elements. These settings then can receive sculptures as they may be acquired over time.

- **Planting.** The public's vision for the rooftop has always included a greener appearance, more trees, shrubs and lawn so that the rooftop would look and feel more integrated with the park. The preliminary design concept softens the edge of the rooftop with planting that corresponds to the existing park landscape while toward the centre areas trees planted overtop reservoir columns punctuate and enliven the proposed hardscapes.
- **Pavilions.** As is currently the case, the new rooftop will feature a series of roofed structures, pavilions that are slightly elevated. The meandering layout of the pavilions is based on suggestions from tai chi practitioners, allowing these spaces to be flexibly used by groups of various sizes. Overall, the proposed pavilions will provide up to 25% more covered space. There is also the opportunity to include a wedding pavilion.
- **Bus parking.** The long range vision identified the existing bus parking in Queen Elizabeth Park as unsatisfactory. Currently, idling buses clutter up the entrance to the park; their fumes torture passers-by. The Park Board has in the past entertained various alternatives to the current bus parking, however, none of them have been realized.

The additional loading capacity of the new rooftop will make it possible to park buses on top, if such a solution is endorsed by the public, and if the GVRD agrees to it. Under the current legal agreement governing Park Board use of the rooftop, buses are not allowed, largely because the current rooftop does not have sufficient loading capacity.

The vision did not endorse bus parking on the rooftop as a solution; however, staff have pursued the possibility of bus parking on the rooftop so that a full discussion of the pros and cons can be had. This issue will form an important aspect of the public consultation.

- **Cost and funding.** Park restoration and the construction of the rooftop will cost between four and five million dollars. Most of these funds will have to be available in 2003 so that the work can immediately follow the completion of the reservoir. It is proposed that adequate funding will be sought in the 2003 to 2005 Capital Plan. A small portion of the overall funding may be needed as early as Summer 2002, to be reported to the Board at that time.
- **Next steps.** Staff are preparing to enter into public consultation, an open house to be held in late February or early March. The focus will be on presenting the concept, checking with the community for compliance with the long term vision, and receiving further comments. Additional meetings with specific groups may be scheduled.

❑ SUMMARY

The reconstruction and expansion of the Little Mountain Reservoir is scheduled to proceed. Park Board and GVRD have to resolve the outstanding issues and agree to a memorandum of understanding that will smooth the way for this important piece of infrastructure renewal, essential to providing reliable water service to a growing city.

Now that the engineering design work has been developed to an acceptable level of certainty, it is time to also develop the future rooftop design to a greater level of detail, so that technical compatibility with the reservoir can be assured, the public's desire for use of the rooftop can be met, and more precise cost estimates can be developed for inclusion of the project in the next Capital Plan.

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